

SOUTHAMPTON
URBAN SANITARY AUTHORITY.



THE 24TH
ANNUAL REPORT
ON THE
VITAL STATISTICS AND SANITARY
CONDITION
OF THE
COUNTY BOROUGH OF SOUTHAMPTON,
For the Year 1897.

BY
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SOUTHAMPTON:

ADAMS & DYER, Publishers, &c., 10, Bernard Street.

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MDCCCXCVIII.

By the order of the Local Government Board, dated March 23rd, 1891, Article 18, Section 14, it is prescribed that the Medical Officer of Health shall “prepare an Annual
“Report to be made to the end of December in each year,
“comprising a summary of the action taken during the
“year for preventing the spread of disease, and an
“account of the sanitary state of his district generally at
“the end of the year. The report shall also contain an
“account of the enquiries which he has made as to
“conditions injurious to health existing in his district,
“and of the proceedings in which he has taken part or
“advised under the Public Health Act, 1875, so far as
“such proceedings relate to those conditions; and also
“an account of the supervision exercised by him, or on
“his advice, for sanitary purposes over places and houses
“that Sanitary Authorities have power to regulate, with
“the nature and results of any proceedings which may
“have been so required and taken in respect of the same
“during the year. It shall also record the action taken
“by him, or on his advice, during the year in regard to
“offensive trades and to factories and workshops. The
“report shall also contain Tabular Statements (on forms
“to be supplied by the Local Government Board, or to
“the like effect) of the sickness and mortality within the
“district, classified according to diseases, ages, and
“localities.”

TO THE MAYOR, ALDERMEN, AND COUNCILLORS OF THE
COUNTY BOROUGH OF SOUTHAMPTON.

GENTLEMEN,

I have the honour to present to you the twenty-fourth Annual Report of the Medical Officer of Health, for the year 1897, in accordance with the requirements of the Local Government Board.

The Death Rate of 16·5 per 1,000 for the entire Borough is highly satisfactory when compared with that of the past ten years for this town, and that of 59 towns of England and Wales for 1897, as shown in Table VIII. of the Appendix.

During the year under review the Southampton Corporation, acting as the Health Authority, have adopted several important measures for protecting the health of the inhabitants. The necessity for expenditure in this direction is due principally to the great and rapid increase in our population, now 100,886, brought about by the inclusion of other districts, and the immigration from distant parts, owing to the increased prosperity of the Town and its consequent demand for labour.

The decision to proceed with the erection of a new Isolation Hospital, will, I am sure, prove not only a boon to many of the inhabitants who may be compelled to inhabit the building, but will act as a more efficient

insurance and safeguard to the inhabitants generally—minimising the risks of infection and epidemics, and the consequent bodily and pecuniary suffering which always accompanies them.

Your Council have also demolished several insanitary hovels, and decided to erect better dwellings for the poorer working classes, substituting for the demolished houses a Municipal Lodging House and artisans dwellings upon the cleared area, situated within a convenient distance (not exceeding half-a-mile) from our Docks, which offers over all other undertakings in the Town the greatest demand for labour.

I am able this year to append a financial return of the Health Department, showing the total cost of a year's work, inclusive of salaries, which will I think pleasantly surprise a great many.

I am, Gentlemen,


Yours obediently,

A. WELLESLEY HARRIS,

Medical Officer of Health.

MUNICIPAL OFFICES, SOUTHAMPTON,

March, 1898.



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STATISTICAL.

AREA.

The Area of the Municipal Borough is equal to 5,295 acres.

POPULATION.

The estimated population has been calculated from the number of inhabited houses upon the rate books in April, 1897, multiplied by the average number of persons resident per house in the various districts in accordance with the census returns of 1891.

After careful revision the corrected estimate of inhabited houses within the Borough equals 19,013; of these 11,353 are allocated to the Town proper; 3,186 to Portswood and Bitterne Park; and 4,474 to Shirley, Freemantle, and Millbrook. From these figures an estimated population is obtained as follows:

ESTIMATED POPULATION, 1897.

District.	No. of Houses on Rate Books, <i>Less</i> Void Houses and Houses pulled down.	Persons per House, Census, 1891.	Estimated Population.
Town Proper ...	11,353	× *5.623	= 63,840
Portswood and Bitterne Park} ...	3,186	× 4.945	= 15,757
Shirley, Freemantle} and Millbrook }	4,474	× 4.758	= 21,289
	<hr/> 19,013 <hr/>		<hr/> 100,886 <hr/>

* 2 added for estimated increased number of Persons per House in Town proper.

The estimated population of the entire Borough for 1897 therefore amounts to 100,886, against 98,002, in 1896.

This estimate I think fairly represents the true population of Southampton. If there be any error the estimate is probably a little under that which a Census at the present time would give.

BIRTHS.

The total number of Births registered in the Borough during the year 1897 numbered 2,937—1,458 were males, and 1,479 females, giving a Birth Rate for the entire Borough of 29·1, compared with 30·0, the average for the past 16 years, and 31·4 the average for England and Wales (see Table V in Appendix).

DEATHS.

The total number of Deaths from all causes registered during the year amounted to 1,711, of which 864 were males, and 847 females, giving a Death Rate of 16·59 per thousand for the entire Borough, compared with 16·47 in the previous year, and 17·4, the average for England and Wales. If we allocate the deaths occurring in the various divisions of the Borough, we have a Death Rate in each as follows:—

Town proper, 18·12; Portswood and Bitterne Park, 12·37; Shirley, Freemantle and Millbrook, 15·12 per thousand of the population.

The increase in the Town over other districts is due to several circumstances, more especially age distribution, greater crowding on space, the nature of occupation of the inhabitants, the greater number of births and increased infantile mortality, &c. These comparisons are fully set out in Tables II. and III.

Compared with 59 other towns, the Death Rate of Southampton is most satisfactory, as will be seen on examination of Table VIII. The Death Rate of Southampton is only 0·17 per thousand in excess of Brighton.

AGE IN RELATION TO DEATHS.

Of the 1,711 Deaths registered, 457 occurred under the age of one year, 211 over one year and under five, 421 between the ages of 25 and 60, and 508 among persons exceeding 60. The number of Deaths between the ages of five and 25 years amounted to 114. (See Table III.)

INFANTILE MORTALITY.

This is calculated upon the number of Deaths occurring under one year of age to a thousand Births during the same period.

The mortality under this heading during the year amounted to 156 per thousand Births (see Table V.), compared with 156 for England and Wales.

ZYMOTIC DEATH RATE.

The Zymotic Death Rate is calculated upon the number of deaths occurring from the seven principal infectious diseases, viz.: — Whooping Cough, Measles, Diarrhœa, Scarlet Fever, Diphtheria, Typhoid Fever, and Small Pox. The total amounted to 217, giving for the year a Death Rate in this class only of 2.15 per thousand persons living, against 1.95 in 1896; the total number of deaths, however, from all Zymotic diseases amounted to 243. The Zymotic Death Rate recorded in Southampton is higher than that recorded in 1896, nevertheless it compares favourably with similar rates in other towns. (See Table VIII.)

ANALYSIS OF DEATH RETURNS.

As in previous years the weekly returns have been revised and the causes of death allocated to their various classes.

A tabulated analysis of the deaths registered during the year is appended. (See Tables III., IV., VII. and XI.)

ZYMOTIC DISEASES.

SCARLET FEVER.—Eleven deaths were registered out of 235 cases notified, giving a mortality of 4·6 per cent. of persons attacked. The prevalence of this disease will be dealt with more fully later.

MEASLES.—This disease was responsible for 47 deaths, and will be more fully reported on.

DIPHTHERIA.—Fifty-three cases were notified during the year, of which nine proved fatal.

TYPHOID FEVER. — Sixty-six cases were reported, of which 12 were removed from ships, and one from an outlying district, seven proving fatal.

PUERPERAL FEVER. — Eight cases were reported, one proving fatal.

DIARRHŒA AND DYSENTERY. — Eighty deaths were recorded from diarrhœa, among children principally, compared with 50 in the previous year.

GENERAL DISEASES.

PHTHISIS.—Deaths from this disease amounted to 141.

CANCER.—Decreased mortality has occurred in respect of this disease to which is attributed during the year 70 deaths.

BRONCHITIS, PNEUMONIA, AND PLEURISY claim a mortality list of 266, which is about the average.

PEMPHIGUS.

An outbreak of Pemphigus occurred during the months of August and September amongst newly-born infants. By the courtesy of the Medical Practitioners in attendance, I was permitted to see the cases and investigate the outbreak.

The total number of infants affected as far as I was able to ascertain amounted to fourteen, and the disease first showed itself amongst the residents of Shirley.

The disease asserted itself about the eighth or tenth day after birth, and occurred to infants who at, and since birth, had been attended by one particular midwife, who in consequence of continued cases in her practice was advised to cease her attendance.

At a later date, information was obtained of further cases in other parts of the Borough, which, on enquiry, were proved to have no connection whatever with the Shirley cases.

This fresh crop of cases curiously enough also occurred in the practice of two other midwives.

The first batch of cases, nine in number, being limited to Shirley, and occurring in the practice of one particular midwife, led one to believe that some infectivity was responsible. The occurrence of the second batch of cases, five in number, occurring in a distant part of the district from the first batch, with the absence of all possible communication negatived the infective theory.

Five of the attacks terminated fatally, which cases were of a most severe type.

The infants attacked were principally females, and the fatal cases were all females, as follows:—

- 1.—A.N., female, aged 12 days, Howard's Grove, Shirley.
- 2.—A.A., „ 14 „ Pound Street, Shirley.
- 3.—K.E., „ 14 „ Howard's Grove, Shirley.
- 4.—E.Y., „ 14 „ Briton Street.
- 5.—M.B., „ 20 „ Cook Street.

My personal interviews with some midwives in consequence of the above subject, and also with regard to investigations *re* Puerperal Fever, have on several occasions convinced me of the desirability for some control over those, who either from their personal uncleanness or ignorance, render their services to the poor a serious danger.

THE NOTIFICATION OF INFECTIOUS DISEASES.

During the year 1897, 426 notifications were received, which compares very favourably with the 1,140 cases notified during the previous year. (See Tables XIII and XVI.)

AGE.—The greatest number of persons affected were those living between the ages of five and ten years, the number recorded between these ages being 143; and between the ages of one and five years, during which age period 82 cases were reported. (See Table XIV.)

MORTALITY.—Out of the 426 notifications, 30 or seven per cent. proved fatal.

SMALL POX.

Seven cases of Small Pox were notified during the year, the details of which are as follows :—

CASE 1.—E.P., aged 20 years, arrived per s.s. “Thames,” January 29th, and was removed to Hospital Ship “Alliance” the same day.

CASE 2.—E.T., aged 24 years, arrived per s.s. “Thames,” and was removed to Hospital Ship “Alliance,” same date.

CASE 3.—A.McL., aged 24 years, an Engineer on s.s. “Thames.” This patient landed from s.s. “Thames,” October 23rd, apparently in good health and proceeded to his apartments in Guillaume Terrace. He was subsequently taken ill, and three days after landing was notified by his Medical attendant to be suffering from Small Pox. I visited the premises immediately and arranged for his removal to the Hospital Ship “Alliance,” and for the efficient disinfection of the premises. At the time of my visit I was provided with a supply of calf lymph, and advised all other occupants of the house to be re-vaccinated without avail. This case was not a severe one.

CASE 4.—F.C., a girl aged 14 years, residing in Paget Street. The case was notified November 8th, 13 days after Case 3 previously described. I immediately visited the premises where I found the type of disease assuming a severe confluent form, the patient never having been vaccinated, was removed as speedily as possible to the Hospital Ship "Alliance." The origin of the disease arose at Guillaume Terrace, the girl having been in service and in attendance upon the former patient, she feeling ill went to her home four days before her removal to Hospital. The house and contents were disinfected, re-vaccination offered, and steps taken to prevent the spread of infection. The occupier carried on laundry work for a small number of persons.

CASE 5.—A.McH., aged 14 years, of Guillaume Terrace, notified November 10th. A mild case arising in the same house as No. 3. Infection due to third case. The patient was removed to Hospital Ship "Alliance," and all precautions adopted to prevent further extension.

CASE 6.—F.A., aged 23 years, of Clifford Street, notified November 13th. A sailor who landed on the 23rd from s.s. "Thames," feeling unwell, and having several spots, he visited a Medical Practitioner in the evening. The notification was sent to my house by hand. I visited the premises at 10.30 p.m., and had the patient removed the following morning. The occupier of the house let lodgings. The offer of re-vaccination was accepted, and the usual methods of precaution were adopted. It was evident that this patient had been ill several days before seeing a Doctor, and I have no doubt the Ship was the source of infection.

CASE 7.—A.J., this case which occurred on November 30th was one of the mildest degree. The patient was a Nurse on the Hospital Ship "Alliance." She was taken ill twelve

days after the admission of case No. 4, due possibly to the great virulence of the poison, and the difficulties of nursing severe cases of this disease upon a temporary ship.

As no other cases occurred no better example in my opinion can be brought forward than this to prove the safeguard Isolation Hospital accommodation is to a Town, and the urgent necessity there is in a seaport of this character of being fully prepared to isolate the first case of any infectious disease that may be brought to the Town by ships or other means.

No small amount of the success recently attained is due to the promptitude with which the Medical attendants notified the cases, and the assistance they are always good enough to accord us.

It is as well to mention that the s.s. "Alliance," was hired as a standby for emergencies until the new Isolation Hospital is erected, the port sanitary hospital "Adelaide," which should have received the Small Pox cases being occupied by Scarlet Fever cases for two years.

I think the Corporation may congratulate themselves on retaining this vessel for any emergencies; the insurance has repaid the Health Authority.

SCARLET FEVER.

Of the total of all infectious diseases notified during the year, 235 were Scarlet Fever, compared with 906 notifications of this disease during the previous twelve months. Of the 235 cases, 141, or 60 per cent. were isolated at West Quay Hospital. Eleven deaths occurred compared with 39 in the previous year. Of the 235 cases notified, 108 were recorded in the first quarter, after which the attacks became greatly reduced, 43, 39, and 45 representing the notifications for the three remaining quarters respectively. (See Table XV.)

Every effort was made to prevent the spread of infection, the details of the system adopted being in every respect identical with the procedure set out in the last annual report.

The enquiries instituted at infected houses in many instances enabled us to trace the infection to some unrecognised case without Medical attendance and unsuspected by the guardians or parents. The School Board authorities have from time to time given us notice of children absent from school through alleged indisposition. The visit of your Medical Officer to the homes of these absentees has on several occasions resulted in the detection of un-notified cases.

The Medical examination of children in schools attended by children notified to be suffering, has on some occasions led to the detention of unrecognised cases amongst the scholars there present, and in consequence secured their immediate isolation.

One has also to guard against the risk of infected persons being sent to the Town from neighbouring districts, the following being an example :—

On June 6th, from information received, I visited a small cottage in King Street, a crowded neighbourhood; here it was discovered that a child, Ethel W., was removed by her father on June 2nd from Shamblehurst in a milk cart, and left her with her aunt in King Street, Southampton. On June 5th, M.A.W., aged 12 years, a sister of Ethel W., then residing at Shamblehurst, was also taken ill and immediately removed by her father to King Street. No attempt was made by the aunt to isolate the cases. Refusal being given by the guardian to their removal to Hospital, an application was prepared for a compulsory order from the Magistrates; consent of the father was given in Court.

In the endeavour to find the origin of a notified case, January 2nd, L.Y., of College Street, information was

obtained that a boy W.S.G., aged eight years, residing at Northumberland Road, visited the house December 27th, and complained of feeling unwell. The house of the child was visited, when he was discovered to be in the peeling stage of Scarlet Fever.

January 4th.—From information received from a School Board officer, W.C., of Eastfield Road, St. Denys, was discovered peeling in school from unrecognized Scarlet Fever, and subsequently isolated.

January 12th.—Information was received from the Bevois Town Board Schools (Infants' Department), that W.E.S., aged 6 years, of Cambridge Road, had been sent home on suspicion. An immediate visit was made to the child's home where he was discovered suffering from Scarlet Fever. He was subsequently notified by a Medical Practitioner and isolated.

January 13th.—A case of suspicion was reported by the School Board Attendance Officer, existing at Chapel Street, Highfield; R.E.P., aged nine years. The brother was engaged at a neighbouring farm. The mother carried on laundry work. The case was removed to hospital, and the necessary precautions taken.

March 10th.—V.E.L., aged 12 years, was discovered by the Medical Staff at the Royal South Hants Infirmary, amongst the out-patients, to be suffering from Scarlet Fever, and sent home. Up to that date the patient had been attending the Northam Board School. The case was subsequently isolated.

June 23rd.—A.E.G., aged 18 years. An unrecognized case of Scarlet Fever. Isolated on discovery. Two children from the house were at the time attending the Central District Board School.

The above are a few examples of the utility of our system of investigation which frequently leads to the detection of unrecognized cases. The legal aspect of each case was considered, and owing to the absence of *wilful* concealment, no legal proceedings were instituted.

DIPHTHERIA.

Fifty-three cases of Diphtheria were recorded; nine cases, or 17 per cent. of those attacked proving fatal. The cases occurred chiefly in the following districts: Freemantle, Shirley, St. Denys, and Old Portswood.

The house drainage was carefully tested and examined at each infected house; with only a few exceptions serious defects were found. Hospital isolation could not be given owing to the want of accommodation.

ERYSIPELAS.

Notifications of 53 cases of Erysipelas were received; one case proved fatal.

TYPHOID FEVER.

Sixty-eight cases of this disease were notified; of which number seven or 10·3 per cent. proved fatal. Of the 68 notifications, 12 were imported cases arriving on steamers at Southampton. The isolation of Typhoid Fever arriving by ships is an absolute necessity, most of the patients being total strangers, without homes or friends in Southampton. The Staff of the Royal South Hants Infirmary have given us considerable assistance in isolating this disease; we are, however, always dependent on their having accommodation so that we may unavoidably be refused at a most crucial moment. The following case is an example:

On Sunday, January 30th, I was called to the s.s. "Christian Broberg," lying in the river, by Her Majesty's Customs, who reported sickness on board. I found a man

in serious condition from Typhoid Fever. Communication was made with the Royal South Hants Infirmary, but this Institution being full they could not receive him. The Hospital Ship "Adelaide" was occupied with Scarlet Fever; the temporary Hospital Ship had Small Pox on board; and the West Quay Hospital was filled with Scarlet Fever. Under these circumstances one had to choose the lesser of two evils, viz.: that of leaving the man on the vessel, or removing him to West Quay Hospital, protecting him as far as possible from the risks of Scarlet Fever. The latter course was adopted. One of the Nurses' rooms was set apart for him, and special Nurses obtained, who would have no communication with the Scarlet Fever patients. The patient remained 14 weeks at West Quay.

The testing and examination of all drains connected with infected houses formed part of the general investigation in each case; with few exceptions, defects were discovered and remedied.

PUERPERAL FEVER.

Eight cases were recorded, of which one proved fatal. The nurse attending the patients was in each case advised to abstain for a period of one month from attending midwifery cases, and her clothing disinfected. We should have power to compel the temporary cessation of work by nurses attending Puerperal Fever.

MEASLES.

This disease is not included in the list of notifiable diseases, and the first warning of its prevalence was obtained by watching the weekly returns of deaths delivered by the Registrars, and by intimation courteously accorded your Medical Officer by the Medical Practitioners of the town.

Forty-seven deaths occurred during the year, which total represents a large number of cases attacked.

Deaths from Measles for the four quarters of the year :

				DEATHS.
1st ending March 31st	...	...	...	2
2nd „ June 30th	...	...	...	3
3rd „ September 30th	...	...	...	29
4th „ December 31st	...	...	...	13

The heaviest mortality occurred during the quarter ending September 30th, when 29 deaths were registered.

Valuable information was given us by the Medical Attendants, this, together with that obtained from School Board Officials was of the greatest value in preventing the further extension of the disease. Houses were visited in which actual or suspected cases existed, and children from infected houses were prevented from attending schools.

The precautionary measures adopted in stamping out the disease proved successful before the end of the December quarter.

The Districts chiefly affected are shown in the following table :

				DEATHS.
Town Ward	...	...	...	2
St. James' Ward	..	...	...	3
St. Mary's	...	...	...	13
All Saints'	...	...	...	1
Trinity	...	...	...	7
Northam	...	...	...	9
Nichols Town	...	...	...	4
Newtown	..	...	...	2
Freemantle	...	...	...	4
Shirley	...	...	...	2

SOUTHAMPTON ISOLATION HOSPITAL.

The means at our disposal during the year for the isolation of the infectious sick, consisted of the Old Fever Hospital, at West Quay, consisting of a dwelling house and

an annex (a temporary iron building), the permanent Floating Hospital, "Adelaide," and the temporary Hospital Ship "Alliance."

The West Quay Hospital and the Hospital Ship have been in continual use for the isolation of Scarlet Fever patients. 141 cases of this disease were admitted at West Quay Hospital, 65 of which were transferred during their convalescent period to the Floating Hospital, in order to provide accommodation at West Quay, for fresh cases.

Seven cases of Small Pox, and *two cases of Measles, were isolated on the temporary Hospital Ship "Alliance," at different periods of the year.

The total admissions amounted to 151, against 281 in the previous year. (See Table XVI).

* Arriving on passenger vessels at the Port..

NEW ISOLATION HOSPITAL.

It is a matter of congratulation that the contract for the erection of a new Isolation Hospital, which will more adequately meet the demands of the Town and Port, has now been accepted. The completion of the building will give greater security to the inhabitants of the Town, enabling us to isolate the first cases of any infectious disease occurring in, or imported into the district, reducing the risks of epidemics to a minimum.

ANALYSES OF PRIVATE WELLS.

A number of houses within the Borough still obtain their water supply from shallow wells. Samples are taken as the wells are discovered and submitted to the Borough Analyst. Where the analysis has proved contamination, immediate steps have been taken in accordance with section 70, Public Health Act, to close the wells and substitute one of the Town water supplies. Those cases in which the result of *chemical* analysis does not warrant a closure, fresh samples

are procured at varying intervals. It is in these cases that a bacteriological, in addition to a chemical examination, would be most useful. It is a matter for regret that we have not the means at our disposal for carrying out such an examination for well water of the Borough, and ship tank supplies obtained abroad. The districts in which the wells chiefly exist are those added to the old Borough under the recent extension order.

Twenty-four samples of drinking water from wells were submitted for examination. Twelve wells were found polluted; in eleven cases they were closed by consent of the owners. A pure supply from the South Hants Water Company in nine cases, and the Corporation Water Works in three cases, being substituted for the well supply. With regard to the remaining case, a shallow well, supplying several cottages at Shirley, it was necessary to obtain a Magistrates' order for its closure, owing to the refusal of the owner to comply with the request of the Local Authority to substitute a pure supply.

Of the total, 24 samples referred to as well samples, there remain 11 cases in which the attention of the owners have been directed to the dangers of using such supplies, being unable to insist on their closure owing to the chemical analysis not showing dangerous contamination.

The action taken to close polluted wells has met with objections on the part of owners of property in Shirley, due in a great measure to the high rates charged by the South Hants Water Company in that district compared with the charges made for the Southampton Corporation supply.

CONTAMINATED FARM SUPPLIES.—The water of two farms, situated at Aldermoor and Highfield, within the Borough, were found polluted, and in consequence closed. In one case the well was a surface well, in gravel, seven feet six inches in depth, abutting on to a cowshed. The main drainage of the premises passed six feet from well. This

well was the only source of supply to the farm, it was used for all purposes, including the cleansing of milk cans, &c. The chemical analysis proved copious sewage contamination.

In the second case, the well, although somewhat deeper, was contaminated by sewage, gaining access from a cesspool and dung vault, in close proximity.

Two cases of Diphtheria being notified at Hope Cottage, Maybush, led to the examination of the water supply obtained from a well 38 feet deep in gravel; situated seven feet from the dwelling-house, and 30 feet from a common privy; the fall of the land being in the direction of the well. The yard (the centre of which was 20 feet from well) contained an accumulation of surface-water, collected from rainfall and washings from pigsties. The well was immediately closed.

HOUSES UNFIT FOR HABITATION.— BROOKLYN ROAD.

This road is situated on low-lying land at Portswood, close to a railway embankment, which separates it from the upper reach of the river Itchen. The site upon which the houses stand has a sub-soil of stiff clay, with a surface of loam a few inches in thickness, and forms a collecting ground for surface water from the higher land immediately surrounding it, which is kept up upon its surface by the impermeable substrata of stiff clay, consequently during wet weather this area becomes almost a swamp.

The estate was laid out in 1894, and building operations were carried on with great rapidity in 1895, resulting in the erection of 124 buildings, 56 of which are situated upon the West and higher side, and 68 on the East.

In February, 1895, my attention was called by the Sanitary Inspector to the improper manner in which the builders were constructing the drainage of the new houses, as a result I visited the estate and examined the drainage

of the houses in course of erection. Although the supervision of new buildings and their *drainage* is governed by another department, I felt it my duty to lay before the Works Committee a detailed report of the unsatisfactory way in which the drainage was being carried out. The details of the report, dated 25th February, 1895, referred to houses upon the east side of the road, being erected by builders from Eastleigh.

In addition to detailed defects in respect of the drainage, the report also contained an expression of opinion in regard to the future, viz:—"That the whole of the site would quickly become contaminated with sewage, and be a menace to the health of the residents."

In consequence of this report, a Committee visited Brooklyn Road, and examined *houses* in course of erection, passing the following resolution which is recorded in the Minutes of 1895, page 806, paragraph 10, as follows:—

At a meeting of the Works Committee held 14th May, 1895, it was resolved: That the following report of the Works Sub-Committee, held on Monday, 13th May, 1895, be adopted and confirmed:—

HOUSES, BROOKLYN ESTATE.—"The Committee proceeded to the Brooklyn Estate, Portswood, and inspected several houses in course of erection, and the drainage in connection therewith, and expressed their approval with the Houses and Drainage, and instructed the Borough Surveyor to report as to relative level of high water mark in respect to the floor of each house."

I sincerely regret that the Committee did not give me the opportunity of accompanying them during their visit, and in consequence of subsequent events I have good reason to believe that their investigations were made in respect of houses other than those reported upon by myself.

In July, 1897, several cases of Infantile Diarrhœa occurred in Brooklyn Road, resulting in three deaths at Nos. 2 and 15, Twynham Terrace, and 18, Brooklyn Road.

On July 14th, and subsequent days, I again visited the estate, and immediately discovered that the East side of the road was one requiring investigation. Here a deplorable state of insanitation existed, the whole area was permeated with sewage odour, while pools of sewage contaminated water existed in many gardens. The upper surface of the ground was saturated with sewage contaminated water. A ditch running along the back gardens at the base of the railway bank was full of foul liquid containing sewage and refuse from a laundry and knacker's yard situated immediately outside the district, which at high tide overflowed into the gardens of the houses. The house drains were defective, soil returning through closet pans, and even sinks in a few instances into the houses. On raising the floor boards, subsoil water highly charged with sewage was found beneath rooms, varying in depth from one to ten inches.

The main sewer was laid at the back of the houses the entire length of the road, taking a course through the centre of the back gardens. On examination this was found defective.

Instructions were given for the drainage of every house to be exposed throughout its entire length. This was carried out by our own workmen under superintendence of Inspectors Hennen and Batchelor.

I had a conference upon the site with the Chairman of the Health Committee, who in accordance with my request decided to convene a meeting of the Health Committee to visit the houses.

A report was presented on July 22nd, 1897, to a special meeting of the Health Committee. On the same date the Committee paid a visit of inspection to Brooklyn Road, and examined minutely and in detail the whole of the houses on

the East side of the road. This meeting adjourned until the following day.

At the adjourned meeting the Committee instructed the Town Clerk to take the necessary proceedings to close forthwith the houses certified by the Medical Officer of Health as unfit for habitation. It was also resolved that a joint meeting of the Works and Health Committees be held on the 27th July, and that the main sewer be opened for the inspection of the Joint Committee.

The East side of Brooklyn Road has 68 houses, to examine these in detail and expose all house drainage occupied some considerable time, so those that appeared the worst were dealt with first.

On the 23rd of July the examination was completed; in respect of Nos. 6, 7, and 25, Brooklyn Road, and No. 7, Twynham Terrace, and certified by me as unfit for human habitation.

On the 27th July I was able to certify Nos. 11, 12, 13, 16, 18, 19, 20, 21, 22, 23, 24, and 31, as unfit for habitation.

The examination was continued until the whole of the houses on the East side were certified as unfit for habitation.

METHOD OF CLOSURE.—Owing to the danger of continued habitation the premises certified were closed in accordance with section 41, of the Borough Building Bye-laws. The difficulty of the tenants to obtain other dwellings received consideration as far as possible, and with one exception only a day or two beyond the time given in the sealed notice affixed to the buildings was necessary.

The following is a list of requirements recommended to the Health Committee as necessary to render the houses fit for habitation, and adopted by them. The owners of the various properties receiving a copy of the same:—

To subsoil drain the whole of the site to the satisfaction of the Sanitary Authority.

To relay the whole of the existing house drains with proper fall, on a bed of concrete, with cement joints, and connected separately and directly with the sewer.

To continue the 4-in. soil-pipe full bore up to a point 4-ft. above the highest part of the house, with 4-in. cast-iron pipe with metal caulked joints.

To provide branch drains with gully traps to receive discharge from all house sinks and stackpipes.

To concrete the site on which the house stands with cement concrete not less than 6-in. in thickness, and to properly ventilate all spaces under ground floors.

To cover the yard situated at the back of the house with paving or asphalte for a distance extending not less than 6-ft. from all external walls.

To erect a brick ashpit with proper doors and coverings at the end of the garden, to line the interior of the ashpit with cement, the floor of the said ashpit to be not less than 6 in. above ground level, and the internal cubic capacity to be not less than eight cubic feet.

And with regard to Nos. 18, 19, 20, 21, 22, 23, 24, and 25, in addition of the above requirements :—

The floors of these houses throughout must be raised at least one foot above ground level.

WORKS CARRIED OUT BY THE WORKS COMMITTEE.

The main sewer was exposed nearly its entire length, rendered water-tight, and separate junctions supplied to each house. A flushing tank was fixed at the highest point to relieve the flatness of the sewer, and suitable ventilating shafts erected. The whole of the polluted ditch was filled in and tidal entrances obviated. A main sub-soil drain was laid to enable owners to drain the area of the houses.

The defects found in the actual structure of the buildings are being dealt with by the Works Committee.

It is a pity that those who have suffered sickness and loss through the scandalous and imperfect system of house drainage constructed by jerry-builders of this property have no redress. The Housing of the Working Classes' Act provides a remedy, but only in respect of houses or portion of houses let at certain rentals.

*“ The general rule of law is, that there is no implied “ covenant by the lessor of a house that it is reasonably fit “ for habitation. But this rule does not apply to a furnished “ house. It is an implied condition, in the letting of a “ furnished house that *it is* reasonably fit for habitation.”

“ Section 75 of the Housing of the Working Classes' “ Act,” is as follows :—

“ In any contract made after the fourteenth day of “ August, one thousand eight hundred and eighty-five, “ for letting for habitation by persons of the working “ classes, a house or part of a house, there shall be “ implied a condition that the house is at the commence- “ ment of the holding in all respects reasonably fit for “ human habitation. In this section the expression “ ‘ letting for habitation by persons of the working “ classes ’ means the letting for habitation of a house or “ part of a house at a rent not exceeding in England the “ sum named as the limit for the composition of Rates “ by section 3 of the Poor Rate Assessment and Collec- “ tion Act, 1869, and in Scotland or Ireland four “ pounds.”

“ It will be seen that the provision of the text creates an “ implied warranty similar to that now existing in the case “ of furnished houses. It has been held that a tenant has “ under this section a right to sue his landlord for damages “ for injuries caused by the premises not being reasonably fit

* McMorran-Lumley's Public Health.

“for human habitation owing to any defective state of repair.
 “When the above section was first introduced into Parlia-
 “ment it was general and applied to all leases and lettings
 “of dwelling houses irrespective of value. As it now stands,
 “however, it applies only to houses or parts of houses let
 “at the rents mentioned in 32 and 33, Victoria, Chapter 41,
 “Section 3, viz.:—in London at a rent not exceeding
 “twenty pounds, Manchester and Birmingham not exceed-
 “ing ten pounds, Liverpool thirteen pounds, and elsewhere
 “eight pounds per annum.”

The intention to render a landlord liable to an action for damages for letting an unfurnished house in a dangerous condition at the commencement of the tenancy, is I think an excellent one, and would if acted upon very quickly, stop jerry-builders from making houses death-traps by the scandalous methods adopted by some of them in the construction of house drainage, many instances of which, and the subsequent sickness and misery caused, have been recently discovered in Southampton; I refer to the premises condemned in Brooklyn Road.

Unfortunately the Legislature prevents the good effect and usefulness of their measure by exempting landlords of all houses which let at a yearly rental exceeding eight pounds in Southampton from any responsibility. Very few houses are let at eight pounds a year in Southampton. The jerry-builder need not fear any claim for damages, and if smart enough to evade the Building Inspector of the Local Authority he may continue to let his death-traps for human occupation. The maximum rental should be raised to twenty pounds, this would protect the working classes, who in their anxiety to find houses are not too inquisitive in regard to the drainage and other details. The inhabitants of houses above this rental are more likely to require some proof that the premises they are about to occupy are in a safe condition for healthy occupation.

In addition to the houses closed in Brooklyn Road, the following were certified as unfit for habitation:—

- 8, Crown Street, Shirley.
- 17, Crown Street, Shirley.
- Three cottages, Old Portswood.
- 6, York Street, Houndwell.
- 20, Simnel Street, (a lodging-house.)
- 64, Anderson's Terrace.
- 3, Goater's Alley.
- 20, King Street.
- 25, Lansdowne Hill.
- A cottage, Sidford Street.
- A cottage at Coxford.
- 1, Thrift Villas, Beech Road, Berrywood.
- 2, Thrift Villas, Beech Road, Berrywood.
- 7, Priory Villas, Berrywood.
- 22, York Terrace, Berrywood.

Eight of these were closed by the owners after notice. In two cases closing orders were obtained from the Magistrates. Three houses were demolished and the remainder rendered habitable.

HOUSING OF THE WORKING CLASSES SCHEME.

Simnel Street, and West Quay Improvement Scheme.

Progress has during the year been made to execute the scheme formulated in accordance with the Housing of the Working Classes Act. Of the three insanitary areas forming the scheme, that portion bounded by Pepper Alley, Simnel Street, West Quay Road, and Blue Anchor Lane, has been entirely cleared of its insanitary dwellings. Plans for the erection of a Municipal Lodging-house have been adopted by the Council, and received after a local inquiry the consent of the Local Government Board.

The building will be erected upon the area now cleared, its main frontage being in Pepper Alley, which road is to be widened to forty feet.

The accommodation will be for single men, who for sixpence per night will be provided with a separate cubicle on the upper floors, while the ground floors will contain for the use of the lodgers—a Reading Room, Dining Room, a Public Kitchen, a Workroom, Baths, Foot Troughs, Lavatories, and a Changing or Dressing Room fitted with a locker for each lodger.

The Main Entrance will be from Pepper Alley, and will open into a vestibule, beyond which, on the left side is an Office, situated to give the Attendants control of a central corridor, which extends from the entrance to the rear of the building.

The Manager's Quarters are situated in the South East corner, and comprise two Bedrooms, Sitting Room, Kitchen, Bath Room, and Coal Store. All these rooms are well lighted from the front and side of the building, and from the yard, which also furnishes light to the corridor at this end.

On the right hand side, and entered from the corridor are the Recreation and Reading Rooms, which are well lighted from Pepper Alley, and the open space on the North side.

Beyond the Shop is a Central Hall, 14-ft. by 14-ft., in which are situated the Stairs to the dormitories above, and the basement.

On the left of the Hall is the Dining Room, it is well lighted by windows on the North side.

At the end of the Dining Room, and in communication with the same, is the Lodgers' Kitchen, well lighted on the South and West sides. It is provided with cooking

stoves and washing troughs, for the use of lodgers. A lift communicates with this Kitchen, the Dining Room, and administrative Kitchen in the basement.

The Lavatory, which is entered from the Central Hall, is provided with enamelled fire-clay basins. Leading from the Lavatory, the Urinals, eight in number, and seven w.c.'s, are situated, beyond which is the Feet Washing Room, and three Bath Rooms, these offices are well lighted and ventilated from the sides, also to an open area.

A Work Room is provided at the end of the corridor, the situation of this room enables an attendant to have full observation over the Lavatory, W.C's, Baths, and Urinals, as a door communicates with the central passage of the same.

The Lodgers' Changing and Locker Room is approached by a separate passage in continuation of the main corridor, and provision is made for lockers sufficient for each resident. At the end of this passage is an external staircase giving access to the administrative portion and the basement below.

This building will provide a healthy and comfortable home for our poorer working men, such as dock labourers and sailors, who, through the lack of constant employment, have hitherto been forced, through necessity, to reside in the degrading, filthy, and insanitary lodging-houses of the neighbourhood. If properly administered, the building will, it is anticipated, and there is every reason to believe it, repay all expenses incurred in its establishment and maintenance, with a profit to the Corporation.

Some opponents to the scheme believed that such a building would become an hotel for all the tramps and vagabonds for miles around. This opinion may be speedily dismissed, few regular tramps will have the necessary fee

for admission; a vagrant does not love order and cleanliness, and will prefer to obtain his lodging free at the casual ward, or go to the cheaper and freer houses in the neighbourhood. Nor do I personally anticipate that after the building is well started there will be much room for chance customers.

This building will be for the reception of single men only.

ARTIZANS' DWELLINGS.

We have also considered various schemes for the housing of the poorer working classes and their families. Until recently the designs have proved too costly for the rents likely to be obtained.

As far as my experience goes, the clearance of insanitary areas, and the erection of houses for the displaced tenants in cottages or artizans' dwellings, has often proved a myth. To begin with, the fact of the old dwellings being insanitary, only the very poor would live in them. On the demolition of the buildings, large blocks of artizans' flats have been erected, and the rents required have been so great as to prohibit the class, who formerly lived on the site, from enjoying the privilege of the new dwellings, and a different and richer class have immigrated into the neighbourhood.

It has been our desire to avoid expensive artizan dwellings, and to provide a building which can be economically erected to provide sanitary habitations for quite the poorer classes. For this reason, two designs prepared have been found impracticable, on the score of high rental, which would be required to cover expenses. Lately, however, we have, I think, succeeded in obtaining a plan,* which will meet the requirements of the poorer working classes of our particular town.

* This plan was adopted by the Council during the revise of the proof of this Annual Report.

The building contains 67 rooms, so arranged that a tenant may rent one, two, or three rooms, according to the number of his family and the fulness of his purse. From the estimate given by your Engineer, it is anticipated that these excellent homes may be within the reach of the poorer class. The average rental being two shillings per week per room. The topmost rooms can be let at the rate of eighteenpence each, increasing according to position to two shillings and sixpence on the first or ground floor. The full details and plans will be laid before you in the early part of the ensuing year.

FOOD AND DRUGS ACT.

The Sanitary Inspectors, acting as inspectors under the Food and Drugs Act, procured 167 samples, submitting the same to the Borough Analyst. Of the total, 74 samples were Milk, 65 Butter, 27 coffee, and one bread. Eight samples were found to be adulterated, and legal proceedings were instituted by the Committee:—

- No. 1.—February 22nd, Milk, 25 per cent. of added water. Fined £4 10s. including costs.
- No. 2.—April 13th, Milk, 27 per cent. of fat abstracted. Fined, including costs.
- No. 3.—April 13th, Milk, 39 per cent. of fat abstracted. Fined, including costs.
- No. 4.—April 15th, Butter, Substituted by Margarine. Withdrawn.
- No. 5.—April 15th, Butter, Substituted by Margarine. Withdrawn.
- No. 6.—June 11th, Milk, 31 per cent. of fat abstracted. Fined 10/- and costs.
- No. 7.—June 30th, Milk, 20 per cent. of added water. Fined £1 and costs.
- No. 8.—December 7th, Milk, 16 per cent. of fat abstracted. Fined 5/- and costs.

It is satisfactory to find that from a collection of 167 samples only 8, or 4·8 per cent., were found adulterated. One cannot however, overlook the fact that many difficulties arise in the successful detection of persons selling adulterated articles of food. There is the fact that the Inspectors are often recognized, although when carrying out these duties they are not wearing uniform.

It has always been the practice of the Southampton Justices to insist that when an Inspector purchases a sample of either Milk, Butter, or Coffee, he should ask for *New* Milk, or *Pure* Butter, or *Pure* Coffee. This practice is not limited to Southampton, and in my opinion should be discontinued as the demand of the Inspector is so distinct from the request made by the general public that frequently the Inspector is defeated in his endeavour to obtain an article as sold to the public.

As an example—Imagine a man either stopping a milk cart, or appearing suddenly, when the milkman is delivering a supply at a house and requesting a pint of *New Milk*. The word *new* immediately creates suspicion, and too frequently he is served from a small reserve can and not from the churn from which milk is being delivered to the public. On several occasions our Inspectors finding they have been served from a special can, have demanded a second sample from the churn they have seen milk supplied to the public, the answer often is, this churn contains skimmed milk.

The difficulty of recognition may be greatly overcome by the employment of an agent to begin the purchase for the Inspector. The Inspector should not be required to emphasise the quality by the description of *New* Milk or *Pure* Butter, &c.

A seller should be required by statute to have conspicuous labels on all vessels containing skimmed milk, much in the same manner as the Margarine Act requires all parcels of Margarine to be distinctly marked. This would prevent a special can being kept for suspicious customers, and would greatly protect the poorer classes.

I also recommend that the Inspectors be instructed to omit the qualifying adjectives "*new*" and "*pure*" when taking samples, and that for the protection of the smaller milk-sellers, who I have reason to believe sell the milk in the same condition as they receive it, (but unfortunately for them, without a warranty), inspectors should take samples from churns in the course of delivery from the consignor to the consignee; a convenient place would be at the local railway stations.

Opportunities should be given to milk-sellers to apply to the Local Authority for an inspector to take samples from parcels consigned to them on arrival in Southampton.

IMPORTATION OF MILK SUPPLIES FROM FRANCE.

From information received, I found that large quantities of milk were being imported into Southampton from France. The milk arrived in large cylinders from which it was emptied into the usual form of churn; a portion of the shipment being sent to a Southampton firm, but the majority to destinations at a distance. Samples were procured and submitted to the Borough Analyst, who reported as follows: "I am of opinion that the same is "a sample of genuine milk of average quality. The sample "contained *form aldehyde*, known as *formalin*, in large "quantity."

In the absence of any reason to believe that the amount of *formalin* present could be deleterious to the

health of the consumers, no action was taken ; moreover, had the analysis proved unsatisfactory, I fear little could have been done, inasmuch as the consignors were foreigners residing in Cherbourg.

I believe during the months of October, November, and December, 76,000 gallons of milk were imported from Cherbourg. Although the chemical analysis appears satisfactory, it does not guarantee that this imported milk is free from the germs of infectious disease, nor is there any guarantee that it is obtained from healthy cows only. Within recent years, many regulations, having the object of protecting our milk supplies, have been instituted, the benefits of which must cease, if we are to admit supplies from abroad without similar guarantees of its purity.

ADULTERATED BUTTER.

A system of selling margarine as *fine country butter*, has been ingeniously practised in Southampton lately.

The *modus operandi* is as follows : Parcels of margarine are purchased at the local French Factory, and conveyed to a private house ; here it is transformed into half-pound pats, and stamped with an attractive pattern and finally packed into baskets, convenient to carry on the arm and covered with muslin. A number of country-looking men are despatched to sell the material. They call at the various private houses, representing that they have come into Town with the finest fresh butter. We have been able to bring before the Magistrates some of the agents, but action against the heads of the firms has so far failed. Power is required to enter and examine these premises where the business is carried on.

INSPECTION OF NEW HOUSE DRAINAGE.

I have to again request your consideration of this subject, which has been referred to in my annual reports of 1892-3-4.

I am of opinion that the department of the Corporation having control of house drainage *after* dwellings have been erected and *occupied*, should have the opportunity of examining the plans and details of the system of drainage proposed to be constructed in new houses before the buildings plans are passed.

If the drainage plans are found satisfactory by the Health Authority, and the work executed, the final examination, testing, and passing of the house drainage, on completion of the building, should also be carried out and reported upon by the same department.

I could give many examples in which the whole system of house drainage, of by no means old buildings, has been discovered at varying periods after occupation, not only defective, but badly constructed, necessitating their reconstruction, a proceeding causing great and sometimes, I think, just irritation to the owner, who generally considers the Health Department to blame, thinking that they have passed the drains before allowing the occupation of the building.

For the efficient administration of such a scheme I would suggest the following:

1.—That on submitting plans for new buildings to the Local Authority, a separate plan of the proposed system of drainage should be attached showing all details, including:—

- (a) The dis-connection by intercepting trap from the Town sewers.
- (b) Size and fall of drain.

- (c) Course of house drain.
- (d) Ventilation inlet and outlet.
- (e) Discharge of sink waste, bath waste, &c.
- (f) The arrangement of water closets.

The drainage plan should be considered by the Health Committee at a meeting held before the Works Committee to whom they would report their opinions.

2.—The existing Bye-Laws provide that no building shall be occupied until it is certified by the Borough Engineer that it has been erected in accordance with the bye-laws. To this section should be added “and the house drainage certified *free from defect* by the Medical Officer of Health.”

It is thought by some that if the Local Authority certifies the new house drainage to be efficient upon its completion and any defects were to occur afterwards, the Local Authority would be responsible—upon this matter the Town Clerk would give you the best advice—but I submit that it would do equally well, if the drainage was found satisfactory, to give a certificate that the drains on completion were efficiently tested by the Health Department and no defect found.

3.—Further, in my opinion a list of requirements of the Local Authority in regard to the construction of house drainage containing details as to falls, trapping, connections, &c., should be embodied as a clause in the new bye-laws, such a clause would also be invaluable in the reconstruction of old house drains.

SLAUGHTER-HOUSES.

During the year the old Bye-Laws relating to slaughter-houses have been repealed and a fresh set instituted which will be invaluable in removing many difficulties in the satisfactory administration of these premises.

The Register contains particulars of forty-seven private slaughter-houses. One slaughter-house has been demolished owing to the extension of the Municipal Electric Lighting Works.

Three are not in occupation.

The number of visits made to slaughter-houses during the year amounted to 1,927.

The licenses renewed, numbered 15; of which two were granted, subject to certain structural works being carried out in a satisfactory manner.

The transfer of one license was refused, owing to the dilapidated and unsuitable nature of the premises; this slaughter-house is now being re-built.

MEAT SEIZURE.

The Master Butchers' and Cattle Dealers' Association presented a request to the Council to concede to them the opportunity for a Committee of the Association to examine any meat seized by an Officer of the Sanitary Authority as unwholesome, unsound, or unfit for food of man, before the destruction of the same by the authority of a Magistrate's order. A list of members of the Association was submitted from which the Authority were requested to select a Committee. In the event of seizure, the Association requested that immediate information be sent to the appointed Committee, stating where the seized articles had been placed.

The following advice was presented to you in respect of this matter:—

“ I may remind you that the statute provides that
 “ a Medical Officer of Health or Inspector of Nuisances
 “ *shall* seize and carry away with assistance any meat,
 “ flesh, fish, &c., which in their opinion is diseased, un-
 “ sound, unwholesome, or unfit for the food of man.
 “ The next step is to take the same before a Magistrate,
 “ who, if satisfied of its unwholesome condition, will

“condemn same, and order its destruction. Subsequently
 “proceedings should be taken in a court of summary
 “jurisdiction to obtain penalties for exposing for sale,
 “or having in preparation for sale, such food. The
 “penalty is heavy, and imprisonment may result without
 “a fine.”

“I am of opinion their request, if granted, should
 “be upon definite rules, and the inspection Committee
 “obliged to attend within a fixed time after the notice
 “is sent. Nothing should interfere with the right of the
 “Local Authority to carry on proceedings irrespective of
 “the views of such Committee. It would appear their
 “request only applies to meat.”

The Health Committee, having considered the above
 resolved:—“That the Butchers’ Association be authorised
 “to appoint three members of their Association for the
 “inspection of any seized meat, and that, upon any
 “seizure, the Medical Officer of Health do inform the
 “Secretary of the Association the place where the inspec-
 “tion may be made within three hours after such notice.”
 This report was adopted and confirmed by Council, 10th
 February, 1897.

WORKSHOPS.

The register contains 235 workshops, containing 339
 rooms. 400 inspections were made of these premises, lead-
 ing to the discovery of 65 nuisances. The chief causes of
 complaint were: uncleanly workrooms and insufficient
 water closet accommodation.

Five informations of infringement of the Factory and
 Workshops Act, received from the Factory Inspector, were
 acted upon.

The systematic inspection of workrooms is important,
 considering that the maintenance of healthy surroundings
 is secured to 1,379 workers in various establishments.

The following Nuisances have been dealt with in connection with Workshops :—

Uncleanly Workrooms (Walls and Ceilings) ..	31
Overcrowding	6
Insufficient Ventilation.. ..	1
Insanitary Condition, owing to Dampness ..	3
Insufficient Closet accommodation.. ..	5
No Closet accommodation	2
No Separate Closet accommodation for sexes..	3
Foul state of Sanitary Conveniences ..	10
Defective Drainage	2
Drains choked	1
Defective floor in Laundry (Wash-house) ..	1
Total	65
<hr/>	
Nuisances abated by Verbal Notice ..	29
Do. do. Written Notice ..	36

The following is a List of Workshops now on the Register ; also, the number of Persons found employed therein :

Business.	No. of Workshops.	No. of Workrooms.	No. of Workers.
Boot and Shoe Makers	12	20	86
Brush and Basket Makers	4	7	24
Carriage Builders	5	19	63
Carpenters	2	2	5
Confectioners	1	1	2
Cycle Makers	6	7	31
Dress and Mantle Makers	86	111	485
Engravers	1	2	5
Flag and Banner Makers	1	1	6
French Polishers	3	3	11
India-Rubber Manufacturers	1	1	2
Jewellers	2	3	8
Metal Workers... ..	1	1	9
Milliners	14	14	72
Rag Pickers	2	5	10
Rope Works	1	2	22
Saddlers... ..	1	1	3
Tailors	59	71	236
Trunk Makers	2	3	5
Turners	1	1	5
Umbrella Makers	1	1	2
Upholsterers and Cabinet Makers ...	10	21	66
Wholesale Chemists	1	2	24
Laundries	18	40	187
Totals	235	339	1,379

BAKEHOUSES.—The register contains 143 bakehouses; of this number, two have been demolished, one of them in consequence of the demolition of the Simnel Street insanitary area.

Seven hundred and sixty-nine visits of inspection were made, and, in consequence, the following defects were discovered, and remedied: non-compliance with statutory requirements to limewhite interior, sixteen; general insanitary condition, six; defective drainage, one; insufficient ventilation, two.

DAIRIES, COWSHEDS, AND MILKSHOPS.—The register contains 22 cowsheds, 27 dairies, and 237 milkshops. To these premises 618 visits were made.

Thirty-eight complaints were made in respect of six overcrowded cowsheds; four, accumulations of manure; five, defective paving; two, insufficient ventilation; fourteen, uncleanly milk-stores; two, cases of defective drainage; one, case of sewage-contaminated well; and, four, less important nuisances.

The importance of the registration and inspection of milkshops cannot be over estimated, when one considers that cows' milk forms the staple food for the young, and that, of all other articles of food, it is the most easily contaminated.

The sanitary condition of several cowsheds has been greatly improved; in two instances, entire reconstruction was carried out.

SUMMARY OF GENERAL ROUTINE WORK

*Receiving the attention of the Health Department during the
year 1897.*

Notices reported by the Sanitary Inspectors ...	3,654
Nuisances reported at the office by Residents ...	579
Preliminary Notices, served and complied with for abating Nuisances ...	1,263
Legal Notices, served for abatement of Nuisances ...	639
Nuisances abated by verbal notice ...	2,331
House to House Inspections made by the Inspectors	2,771
Inspection of Houses after complaints of Nuisances ...	15,429
Inspectors' Visits to Houses, in consequence of noti- fication of infectious sickness ...	1,278
Number of Inspections of Courts and Alleys ...	517
Houses disinfected ...	387
Drains tested with smoke... ..	428
„ „ water	330
„ found defective after testing	409
„ „ choked, and subsequently cleared ...	626
„ re-constructed	354
„ re-trapped	533
„ disconnected from the Sewer and ventilated ...	136
Inspection Chambers provided to House Drains ...	40
Bath, Lavatory, and Slopstone Waste-pipes discon- nected from Drains, and made to discharge over open Gully Traps	211
New Pans fixed to Closets	384
Cesspools and Catchpits abolished	7
Soil Pipes (indoor) abolished, and New Soil Pipes fixed on outside of Houses, and ventilated ...	29
Old Drains abolished and New Drains provided ...	31
Water laid on to Closets for flushing	742
Houses cleansed and whitewashed	178
Pan-Closets abolished and Modern Closets substituted	28

Courts, Water Closets and Urinals re-limewashed	...	20
Badly-constructed Slopstone Sinks re-constructed	...	49
Sanitary Dust Bins provided in lieu of Ashpits	...	4
Urinals re-constructed	... ..	3
Court repaved throughout	... ..	1
Stagnant water and saturated earth, under six houses at Northam, removed, and gravel substituted, covered with cement concrete	... ..	6
Water Closets in houses externally ventilated	... ..	3
Premises drained to Public Sewer	... ..	5
Cesspools emptied at Highfield	... ..	2
Cellar cleansed and re-limewashed	... ..	1
Overcrowding of houses abated	... ..	9
Cesspools emptied—Shirley District	... ..	73
Animals kept in a dirty state	... ..	27
Roofs of Houses defective, and guttering under same, causing damp rooms, repaired	... ..	85
Paving in yards repaired...	... ..	78
Manure and offensive matter removed	... ..	147
Defective water fittings reported to Water Works Engineer	... ..	76

ROUTINE WORK.

HOUSE TO HOUSE INSPECTIONS. — House to house inspections were made in the following roads, streets, and courts within the Borough, by the Sanitary Inspectors, and reports thereon submitted to your Medical Officer.

TOWN PROPER AND PORTSWOOD.—Marine Street, Bedford Place, Amoy Street, Canton Street, Bannister Street, Handford Place, Southampton Street, Carlton Place, Wilton Avenue, Cambridge Street, Ivy Road, Crown Street, Marine Terrace, North Road, Eastfield Road, Kent Road, Verulam Road, Brooklyn Road, Dundee

Road, Aberdeen Road, Stanley Road, Oriental Terrace, Russell Street, Bell Street, Chandos Street, Duke Street, Charles Street, Winchester Terrace, Queen Street, Cross Street Rookery, Guildford Street, York Street, King Street, Campbell Street, Coburg Street, Melbourne Street, Princes Street, Church Street and Clarence Street.

COURTS.—Cushen's Court, Pardy's Court, Fives Court, Coburg Yard, Brewhouse Court, Wickham Court, Victoria Court, Goater's Court and Alley, Lansdowne Place, Castle Buildings, William's Court, Castle Gardens, Castle Court, Dear's Court, St. George's Place, Barling's Court, Gloucester Court, China Court, East Place, Green's Court, Taylor's Court, Horseman's Buildings, Regent Court and Place, Spa Court, Spa Gardens, Farmer's Court, Bromfield Court, Holden's Square, White's Court, Barry's Court, Hawkins' Court, Cross Court, Mount Place, Frosse's Court, Nelson Court, Challis Court, Morse's Court, Newman's Court, St. Thomas Buildings, Waterhouse Court, York Square, Church Row, Wheeler's Court, Cousen's Court, Petty's Court, Bell's Buildings, Saw Mill Cut, New Court, Goddard's Court, St. George's Court, Union Court, Charlotte Court, and Coombs Court.

SHIRLEY AND FREEMANTLE:—Millbrook Road, Mansion Road, Queen's Road, Grove Terrace, Foundry Lane, Sidford Street, Sidford Terrace, Southbrook Road, Southbrook Square, Waterhouse Lane, St. James Road, Bellemoor Road, Osborne Road, Alma Road, Varna Road, Wilton Road, Vincent Grove, Park Road, and Waterloo Road.

The total number of visits under this heading amounted to 3,288 ; of these 608 were in the Shirley and Freemantle Districts, and 2,680 in other parts of the Borough.

NUISANCES REPORTED TO THE DEPARTMENT.—The total number of nuisances reported amounted to 4,233, of which

579 were reported by residents of the Borough, necessitating the visit of an Inspector to the premises, to investigate and report on the complaint. In the majority of cases repeated visits were made in order to supervise the carrying out of the Local Authority's requirements to abate nuisances.

The total number of visits to houses reported upon amounted to 15,429.

INFECTIOUS DISEASE NOTIFICATION.—The enquiries, removal of Patients, and disinfection, necessitated 1,278 visits by Inspectors to infected houses.

ABATEMENT OF NUISANCES.—Of the 4,233 nuisances reported, 2,331 were abated by verbal notice, 1,263 were abated by preliminary notice; 639 by legal notices issued by order of the Sanitary Authority: while 22 notices remained to be executed on December 31st.

WATER CLOSETS WITHOUT WATER.—In Shirley and Freemantle 517 legal notices were served, to provide efficient flushing apparatus to closets; 484 of which were complied with at the termination of the year. 258 notices served for a similar purpose in other portions of the town, were complied with.

UN SOUND FOOD SEIZED AND DESTROYED BY ORDER OF THE JUSTICES.

	LBS.
Meat	72
Fish: Including Mackerel, Hake, Dabs, Salmon, Dorey, and Sprats ...	3,393
Fruit: Pears	2,352
Sundries: Onions	8,880
Oysters 300	

ARTICLES DISINFECTED AT THE STEAM DISINFECTOR.

The total number of Articles amounted to 25,586, made up as follows :

Beds	...	...	...	...	...	654
Bolsters and Pillows	...	...	...	...	...	2,134
Blankets	...	...	...	...	...	3,348
Sheets	...	...	...	...	...	1,231
Counterpanes	...	...	...	...	...	606
Sundries	...	...	...	...	...	17,613

COMMON LODGING HOUSES.—The Register contains 11 Common Lodging Houses. The number of inspections made during the year amounted to 696. The whitewashing has been carried out during the months of April and October, in accordance with section 82, of the Public Health Act, 1875. No case of infectious disease occurred among the inmates during the year. One Common Lodging House has been closed by order of the Sanitary Authority, and one demolished.

FINANCIAL SUMMARY OF A YEAR'S EXPENDITURE
BY THE HEALTH DEPARTMENT, FOR THE
YEAR ENDING MARCH 31st, 1898.

Since this report has been compiled, we have been able to ascertain from the Borough Accountant, the following figures of a year's expenditure.

The perusal of these figures will, I think, be interesting, as they will show that the work of the Department is carried out at a comparatively small expense.

The statement is divided into two portion, A and B. The first refers to the Health administration of the Borough, and the latter to that of the Port.

A.—Borough.

Shows the total expenditure in regard to the health administration of the Borough, and includes the salaries of all persons employed by the Department; the boarding of nurses, and the maintenance of patients at Hospital; all bedding, linen, furniture, stores, &c., for Hospital; the notification of infectious disease; the removal of infectious persons to hospital; the disinfection of houses; drugs and disinfectants; rents, rates, and insurances; printing, advertising, and stationery; office accommodation, Shirley; the the scavenging of the Western Shore, &c.

	£	s.	d.
Actual expenditure for year ending 31st March, 1898 (see minutes, page 724)	4,738	14	10½
Principal and Interest (Old Hospital and Disinfector)	119	0	2
	4,857	15	0½
Less Receipts	322	2	0
Total Expenditure	£4,535	13	0½

Taking the Assessable value of the Borough for 1897, £366,595, and allowing five per cent., for voids, &c., the above expenditure equals a rate of a little over *three pence* in the pound.

B.—Port.

Shows the total expenditure in regard to the Port, and includes salaries; maintenance of hospital ship; boarding patients and staff; painting repairs, coal, and stores; expenses of steam ambulance; rent of Dock office; printing, stationery, insurance; hire of s.s. "Alliance," &c.

	£	s.	d.
Actual Port Sanitary expenditure for the year ending 31st March, 1898 (see minutes, page 725).	1,217	13	10½
Principal and Interest (Hospital Ship and Steam Ambulance)	443	0	9
	1,660	14	7½
Less Receipts	139	1	6
Total expenditure	£1,521	13	1½

Upon the assessable value, this expenditure is equivalent to a rate of *one penny* in the pound.

To analyse these figures in a popular manner, it will be seen that in regard to A, the rate necessary to supply the amount expended by the Health Department for the Borough, equals *three pence* in the pound, while that for the Port would be *one penny* in the pound.

As an example of the payments demanded from the working population of the Town to meet this expenditure, we take a house at a rental of £16 per annum, the rateable value of which would be £12, the occupier of the house (irrespective of the number of persons therein, under the protection of the Health Department), would have to pay less than *three farthings* per week, or *three shillings* per annum for the Borough, and *a farthing* per week for the Port administration. The total for the Borough and Port together, would thus amount to *one penny* per week for the maintenance of this Department.

The benefits received by the *penny* weekly payments, in addition to the numerous duties imposed by the legislature, are the measures adopted by the Health Department to prevent the spread of infectious disease; should, however, any member of his family unfortunately contract an infectious disease, his payment acts as an insurance, inasmuch as his child, or children, may obtain medical treatment and maintenance in the Fever Hospital, belonging to the Corporation, without any cost to the parents. Moreover, he would secure the benefits of perfect house drainage, the supervision of his food supplies, and prevention of the sale of diseased material. His relations, who are working in Factories, are secured healthy workrooms, lighting and ventilation. He may complain of anything that causes a nuisance, this Department having the same immediately remedied.

In regard to the Port, the small fraction paid for its healthy maintenance, secures for many their employment by maintaining the sanitary condition of the Port, which is essential to the continuance of its prosperity.

APPENDIX A.—CONTENTS.

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Table	I.	Showing Births and Birth Rates for the whole Borough and various Districts for ten years, 1888-1897.
„	II.	Showing Deaths and Death Rates for the whole Borough and various Districts for ten years, 1888-1897.
„	III.	Deaths from all causes at subjoined ages in the Borough of Southampton, from 1888 to 1897.
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APPENDIX A.

TABLE I.

SHOWING BIRTHS AND BIRTH RATES FOR THE WHOLE BOROUGH AND VARIOUS DISTRICTS FOR 10 YEARS, 1888—1897.

Year.	Whole Borough.				Town Proper.		Portswood.		Shirley and Freemantle.	
	Males.	Females	Total Births.	Birth Rate.	Total Births.	Birth Rate.	Total Births.	Birth Rate	Total Births.	Birth Rate.
1888	1000	996	1996	31·31	1707	31·19	289	32·03	—	—
1889	982	984	1966	30·59	1660	30·19	306	32·89	—	—
1890	961	887	1848	28·52	1585	28·71	263	27·44	—	—
1891	1069	976	2045	31·30	1740	31·37	305	30·92	—	—
1892	988	923	1911	28·93	1639	29·38	272	26·45	—	—
1893	1018	997	2015	30·22	1704	30·41	311	29·23	—	—
1894	1097	1016	2113	31·40	1797	31·92	316	28·75	—	—
1895	1085	1095	2180	29·71	1874	31·15	306	23·14	—	—
1896	1467	1392	2859	29·17	1912	30·18	368	25·17	579	28·46
1897	1458	1479	2937	29·11	1886	29·54	439	27·86	612	28·75
Average 10 Years.	1112	1075	2187	30·03	1750	30·40	318	28·39		

TABLE II.

SHOWING DEATHS AND DEATH RATES FOR THE WHOLE BOROUGH AND VARIOUS DISTRICTS FOR 10 YEARS, 1888—1897.

Year.	Whole Borough.				Town Proper.		Portswood.		Shirley and Freemantle.	
	Males.	Females	Total Deaths.	Death Rate.	Total Deaths.	Death Rate.	Total Deaths.	Death Rate.	Total Deaths.	Death Rate.
1888	556	538	1094	16·88	965	17·30	129	14·29	—	—
1889	557	524	1081	16·38	968	17·10	113	12·14	—	—
1890	622	546	1168	17·54	1036	18·20	132	13·77	—	—
1891	614	577	1191	17·95	1069	18·95	122	12·37	—	—
1892	723	743	1466	21·72	1297	22·69	169	16·43	—	—
1893	704	666	1370	19·99	1230	21·29	140	13·15	—	—
1894	629	532	1161	16·63	1020	17·37	141	12·82	—	—
1895	716	679	1395	18·27	1240	19·71	155	11·72	—	—
1896	837	820	1657	16·47	1170	17·63	188	13·52	299	14·96
1897	864	847	1711	16·59	1209	18·12	191	12·37	311	15·12
Average 10 Years.	682	647	1329	17·84	1120	18·84	148	13·26		

TABLE III.

DEATHS FROM ALL CAUSES AT SUBJOINED AGES IN THE BOROUGH OF SOUTHAMPTON, FROM 1888 To 1897.

Year.	At all Ages.	Under 1 Year.	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and upwards.
1888	1094	252	130	52	49	290	321
1889	1081	212	145	31	44	297	352
1890	1168	239	158	44	53	326	348
1891	1191	252	102	41	55	314	427
1892	1466	283	157	52	48	425	501
1893	1370	317	167	58	61	401	366
1894	1161	253	119	58	53	337	341
1895	1395	339	149	43	59	377	428
1896	1657	420	218	72	73	453	421
1897	1711	457	211	60	54	421	508

TABLE IV.

CAUSES OF DEATHS IN SOUTHAMPTON FOR TEN YEARS—
1888 To 1897.

Causes.	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897
Small Pox	—	—	—	1	1	9	3	—	1	—
Scarlatina	7	3	5	3	2	4	3	15	39	11
Diphtheria	10	6	7	2	1	6	5	3	6	9
Membranous Croup	—	—	1	—	1	2	—	2	3	1
Enteric or Typhoid Fever	7	5	6	9	16	22	13	10	13	6
Continued Fever	—	1	—	1	2	—	—	—	—	1
Relapsing „	—	2	—	—	—	—	—	—	—	—
Puerperal „	1	—	2	1	2	1	1	5	5	1
Erysipelas	3	4	1	1	3	5	6	—	6	1
Measles	16	30	14	12	8	45	13	14	62	47
Whooping Cough	28	13	32	5	20	15	31	7	22	61
Diarrhœa and Dysentery	26	25	17	13	28	54	13	65	50	80
Rheumatic Fever	3	5	3	—	1	3	9	7	2	6
Influenza	—	—	3	3	41	5	13	18	5	16
Phthisis	107	89	105	100	108	102	111	109	143	141
Cancer	32	32	41	54	53	66	63	61	81	70
Bronchitis, Pneumonia, and } Pleurisy	164	149	216	190	346	245	193	242	248	266
Heart Disease... ..	70	80	87	108	121	98	83	112	126	121
Injuries... ..	35	36	47	61	41	44	50	61	57	48
Other Diseases	585	601	581	627	671	644	551	664	788	825
Totals	1094	1081	1168	1191	1466	1370	1161	1395	1657	1711

The above Totals include deaths of persons not belonging to Borough.

TABLE V.

SHOWING POPULATION, BIRTH RATES, DEATH RATES, ZYMOTIC DEATH RATES, INFANTILE MORTALITY, AND MARRIAGE RATES IN SOUTHAMPTON AND ENGLAND AND WALES FOR SEVENTEEN YEARS, 1881—1897.

Year.	Population	Births.			Deaths.			Zymotic Deaths.			Infantile Mortality.		Marriages.		
		Total Births.	Birth Rate.	Birth Rate England and Wales	Total Deaths.	Death Rate.	Death Rate England and Wales.	Total Zymotic Deaths.	Zymotic Death Rate.	Zymotic Death Rate England and Wales.	Deaths under 1 year per 1,000 Births Registered.	South- ampton, & Wales.	Total Marriages.	Marriage Rate.	Marriage Rate England and Wales.
1881	60,051	2,019	33·6	33·9	1,149	18·7	18·9	119	1·98	2·32	119	130	...	...	...
1882	60,578	1,948	32·1	33·7	1,111	18·0	19·6	87	1·31	2·73	131	141	...	...	...
1883	61,105	21,22	34·7	33·2	1,283	20·6	19·5	168	2·79	2·20	137	137	...	...	...
1884	61,633	1,966	31·9	33·5	1,052	16·7	19·6	75	1·21	2·64	114	147	...	...	...
1885	62,160	1,914	30·8	32·5	1,190	18·9	19·0	146	2·34	2·19	146	138	...	...	...
1886	62,668	1,926	30·7	32·4	1,153	18·0	19·3	71	1·13	2·36	140	150	481	15·3	14·1
1887	63,215	1,979	31·3	31·4	1,214	18·7	18·8	135	2·13	2·29	145	145	520	16·4	14·2
1888	63,742	1,996	31·3	30·5	1,094	16·9	17·9	94	1·47	2·10	126	144	551	17·3	14·2
1889	64,270	1,966	30·6	30·6	1,081	16·3	17·8	85	1·32	1·77	117	144	514	16·0	14·7
1890	64,797	1,848	28·5	29·7	1,168	17·5	19·2	82	1·26	2·03	129	151	520	16·0	15·1
1891	65,325	2,045	31·3	31·4	1,191	18·0	20·2	47	0·72	1·83	123	149	583	17·8	15·5
1892	66,062	1,911	28·9	30·5	1,466	21·7	19·0	79	1·19	1·90	148	148	589	17·8	15·3
1893	66,674	2,015	30·2	30·8	1,370	20·0	19·2	157	2·35	2·52	157	159	648	19·4	14·7
1894	67,283	2,113	31·4	29·6	1,161	16·6	16·6	81	1·20	1·88	119	137	617	18·3	15·0
1895	73,384	2,180	29·8	30·3	1,395	18·3	18·7	111	1·51	2·21	155	161	675	18·4	15·0
1896	98,002	2,859	29·1	29·7	1,657	16·4	17·1	192	1·95	2·17	146	148	838	17·1	15·7
1897	100,886	2,937	29·1	29·7	1,711	16·6	17·4	217	2·15	2·15	156	156	848	16·8	16·0
Average, 17 years ...		2,103	30·9	31·4	1,262	18·1	18·7	114	1·65	2·19	136	146	615	17·2	15·0

NOTE.—The Zymotic Deaths and Death Rates include only the seven principal Zymotic Diseases, viz.:—Whooping Cough, Measles, Diarrhoea, Diphtheria, Scarlet Fever, Typhoid Fever, and Small Pox.

TABLE VI.

SHOWING DEATH RATE FROM THE PRINCIPAL INFECTIOUS DISEASES
PER 1,000 OF THE POPULATION FOR SEVEN YEARS.

Disease.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Small Pox	·01	·01	·13	·04	·0	·01	·0
Scarlet Fever	·04	·03	·06	·04	·18	·39	·11
Whooping Cough	·07	·30	·22	·46	·09	·22	·60
Typhoid Fever	·17	·27	·32	·18	·09	·13	·06
Measles	·18	·12	·67	·18	·19	·63	·46
Diphtheria	·03	·01	·09	·07	·07	·06	·10
Diarrhœa and Dysentery ..	·20	·43	·88	·18	·89	·51	·79

TABLE VII.

The total Deaths from Zymotic Diseases during 1897 amounted to 243, 30 being of a notifiable and 213 of a non-notifiable character, against totals of 218 in 1896 and 135 in 1895.

	1895	1896	1897	
Small Pox	0	1	0	Notifiable under the Infectious Di- sease (Notifica- tion) Act, 1889 Death Rate 0·29.
Scarlet Fever	13	39	11	
Diphtheria	3	6	9	
Membranous Croup	2	3	1	
Enteric or Typhoid Fever	7	13	6	
Continued Fever	0	0	1	
Erysipelas	0	6	1	
Puerperal Fever	5	5	1	Not Notifiable un- der the Infectious Disease (Notifica- tion) Act, 1889. Death Rate 2·11.
Measles	14	62	47	
Whooping Cough	7	22	61	
Influenza	18	5	17	
Diarrhœa and Dysentery	65	50	80	
Malarial Fever	0	0	2	
Pyæmia and Septicæmia	0	1	2	
Syphilis	0	1	4	
Phagedæna	1	0	0	
Febricula	0	2	0	
Vaccina	0	2	0	
Totals	135	218	243	

TABLE VIII.

V.

COMPARATIVE MORTALITY OF SOUTHAMPTON AND 59 TOWNS.

BOROUGH.	Estimated Population, middle of 1897.	Birth Rate.	Death Rate.	Zymotic Death Rate.	Infantile Mortality. Deaths under 1 year per 1,000 Births Registered.	Average Death Rate— 10 years, 1888 to 1897.
Ashton-under-Lyne	44,700	26· 6	20· 9	3· 3	228	22· 4
Barrow-in-Furness	55,570	28· 2	14· 5	1· 69	154	15· 2
Bath	52,600	19·18	16·36	1· 20	128	18·47
Birkenhead	111,001	31·68	18·39	2·63	164	19·52
Birmingham	505,772	33· 2	21· 1	3· 8	214	20· 1
Blackburn	131,330	27· 5	19· 2	2· 0	208	21· 9
Bolton	121,433	32· 8	21·13	4·16	183	21· 4
Bootle	52,000	33· 6	20· 3	4·19	199	20·03
Bradford	231,260	24·55	17·39	2·24	179	19·45
Brighton	121,401	24· 6	15· 0	1·54	124	17· 4
Bristol	232,242	28·05	17·17	1·85	145	18· 7
Burnley	100,000	31· 5	20· 6	2· 0	223	21· 0
Burton-on-Trent	50,850	28·10	14·71	1·78	133	16·83
Bury	60,100	25·29	18·75	2·89	176	22·01
Cardiff	170,063	31· 0	14· 9	2· 1	150	18· 7
Coventry	61,234	31· 6	16· 8	1· 8	157	17· 5
Croydon	121,170	25·03	13·38	1· 6	139	14·97
Derby	103,291	27· 2	16· 0	1· 6	167	17·01
Dover	35,551	27· 4	15· 4	1·20	135	16· 9
Dudley	47,955	36·01	17·87	2·14	165	—
Exeter	38,000	23·84	18·32	2·47	161	19· 3
Gateshead	101,070	35· 8	18· 6	2· 2	173	19· 4
Great Yarmouth ..	50,911	29·20	18·97	3·33	184	†19·07
Grimsby	58,450	32·42	17·84	3·76	221	*17·95
Halifax	95,747	22·42	16·39	1·37	140	19·11
Hanley	59,510	35· 5	20· 2	3· 0	202	19· 9
Huddersfield	101,454	23·39	16·48	1·47	132	18·10
Leeds	409,472	31· 6	19· 9	2· 8	190	20· 8
Lincoln	44,097	28· 2	17· 5	1·79	168	17· 5
Liverpool	644,129	34·58	23·46	4·68	201	24· 9
Manchester	536,426	33·00	22·35	3·97	194	23· 6
Merthyr Tydvil ..	70,768	34· 4	22· 4	4· 5	446	22· 0
Newcastle-on-Tyne	217,555	31· 2	18· 7	1· 6	177	21· 1
Newport, Mon. ..	69,652	31· 2	15· 5	2· 5	164	18· 5
Northampton	66,500	26· 3	15· 6	2· 4	184	16· 2
Norwich	110,154	30·54	18·75	2·22	196	§18·59
Nottingham	232,935	28· 9	18· 8	2· 8	206	18· 1
Oldham	145,845	26· 1	19· 2	2· 5	183	21· 8
Plymouth	97,658	28· 3	19· 1	2·20	188	20· 6
Portsmouth	182,585	24· 7	16· 2	2·53	168	18·04
Preston	115,103	31· 8	24· 3	5·63	263	—
Reading	68,094	26·62	14·22	2·10	148	15·13
Rhondda	119,138	34· 6	16· 4	3·03	240	19· 1
Rochdale	74,115	25· 6	17· 8	1·80	139	18·90
St. Helens	82,910	38·51	21·05	4·24	181	21·91
Sheffield	351,848	34· 4	21· 2	3·5	197	21· 4
Southampton ..	100,886	29·11	16·59	2·15	155	17· 8
Southport	48,445	20·70	16·55	1·11	181	17·16
South Shields	95,798	33· 6	16· 2	1· 1	154	19· 2
Stockport	80,000	30· 9	—	4· 8	214	23· 5
Sunderland	142,107	34·52	19·54	2·64	168	21·60
Swansea	98,250	29· 9	16· 0	1·29	139	19· 9
Tynemouth	51,148	29· 5	18· 4	2·24	166	†19·35
Walthamstow	70,000	32·08	11·88	2· 8	133	13· 8
Warrington	61,700	36· 7	19· 5	2· 8	175	21· 8
West Bromwich	63,000	36· 0	19· 7	3· 4	175	19· 9
Wigan	61,043	37·16	20·99	3·11	175	22·69
Willesden	90,525	31· 7	14· 6	2· 9	153	13· 8
Wolverhampton	87,287	35· 1	21· 8	4· 6	219	21·25
Worcester	44,505	28· 5	19· 8	2· 5	160	19· 9

† For Eight Years. § For Ten Years. * For Ten Years from 1887 to 1897.

(A) **TABLE IX.**
TABLE OF DEATHS DURING THE YEAR 1897, IN THE SOUTHAMPTON URBAN DISTRICT, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

Names of localities adopted for the purpose of these Statistics; public institutions being shown as separate localities.	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES.							MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																					
	At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	FEVERS.					Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.	Cancer.	Injuries.	All other Diseases.	TOTAL.
												Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.													
Town Proper ...	1015	307	157	30	30	290	201	Under 5 ...	3	2	1	—	—	—	—	—	—	37	40	49	—	3	95	1	—	6	227	464	
Portswood & Bit-terne Park	191	64	20	6	8	39	54	5 upwards	1	2	—	—	1	1	—	1	—	2	2	6	4	75	66	60	36	20	274	551	
								Under 5 ...	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27	—	—	37	84
Shirley, Freeman-tle & Millbrook	311	80	28	14	8	95	86	5 upwards	1	1	—	—	2	—	—	—	—	6	13	2	1	19	10	16	4	7	44	107	
								Under 5 ...	2	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19	—	1	55	108
The Workhouse ...	129	2	3	—	4	64	56	5 upwards	—	2	—	—	—	—	—	—	—	2	—	—	1	27	29	25	18	7	93	203	
								Under 5 ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	1	5
Royal South H'ts Infirmary ...	60	4	2	7	4	36	7	5 upwards	—	—	—	—	—	—	—	—	—	—	—	—	—	16	17	16	6	2	67	124	
								Under 5 ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fever Hospital ...	5	—	1	3	—	1	—	5 upwards	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	3	6	3	39	54	
								Under 5 ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals ...	1711	457	211	60	54	525	404	Under 5 ...	5	4	1	—	1	—	—	—	1	45	59	72	—	3	143	1	—	9	324	668	
								5 upwards	6	5	—	5	1	—	2	2	8	6	138	123	120	70	39	517	1043				
The subjoined numbers have also to be taken into account in judging of the above records of mortality.																													
Deaths occurring within the district among persons not belonging thereto.	37	—	1	2	4	24	6	Under 5 ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	
								5 upwards.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS.

Names of localities adopted for the purpose of these statistics; Public Institutions being shown as separate localities.	POPULATION AT ALL AGES.		Registered Births.	Aged under 5 or over 5.	NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH													NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITAL.															
	Last Census	Estimated to middle of 1897.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Group.	FEVERS.					Cholera.	Erysipelas.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Group.	FEVERS.					Cholera.	Erysipelas.							
									Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.							Typhus.	Enteric or Typhoid.	Continuous.	Relapsing.	Puerperal.									
Town Proper ...	55,463	63,840	1886	Under 5 5 upwds.	—	50	3	2	—	4	—	—	—	—	—	—	—	19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Portwood & Bit- terne Park }	9,862	15,757	439	Under 5 5 upwds.	7	120	15	—	—	48	1	—	2	—	39	—	—	7	94	*1	—	*13	—	—	—	—	—	—	—	*1	—	—	—
Shirley, Freeman- tle & Millbrook }	16,801	21,289	612	Under 5 5 upwds.	—	6	5	—	—	2	—	—	2	—	—	1	—	—	2	—	—	—	*2	—	—	—	—	—	—	—	—	—	—
The Workhouse ...	—	—	—	Under 5 5 upwds.	—	35	17	—	—	4	1	—	4	—	6	—	—	—	16	—	—	*3	—	—	—	—	—	*1	—	—	—	—	—
Royal South H'ts. } Infirmary ... }	—	—	—	Under 5 5 upwds.	—	2	—	—	—	—	—	—	—	—	3	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTALS... ...	82,126	100,886	2937	Under 5 5 upwds.	7	171	44	2	—	59	2	—	8	—	49	—	—	7	115	1	—	18	—	—	—	—	—	2	—	—	—	—	—

*Removed to Infirmary.

NOTE.—The totals for the Town Proper include:—Two cases of Small Pox which were removed from vessels entering the Port; also, twelve cases of Typhoid Fever removed to Infirmary, &c., from vessels entering the Port, and one case removed to Infirmary from an outlying district.

TABLE XI.

SHOWING CAUSES OF, AND AGES OF ALL DEATHS OCCURRING IN THE BOROUGH OF SOUTHAMPTON,
DURING THE YEAR ENDED 31st DECEMBER, 1897.

DISEASES CLASSIFIED.	AGES.												SEX.		Totals.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
													Males.	Females.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
	0 to 1	1 to 5	Total under 5 years.	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards.	Total over 5 years.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
CLASS	I.—ZYMOTIC DISEASES	

TABLE XI.—CONTINUED.

DISEASES CLASSIFIED.	AGES.												SEX.		Totals.
													Males.	Females.	
	0 to 1	1 to 5	Total under 5 years.	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards.	Total over 5 years.	
Class I.—Zymotic Diseases.															
Group 1.—Miasmatic Diseases.															
Scarlet Fever ..	..	5	5	..	1	..	..	..	..	..	..	..	..	6	11
Measles ..	8	37	45	..	..	..	..	..	..	..	..	..	..	20	47
Whooping Cough ..	32	27	59	..	..	..	..	..	..	..	..	..	..	39	61
Diphtheria ..	..	4	4	..	1	..	..	..	..	..	..	..	..	4	9
Membranous Group ..	..	1	1	...	..	..	..	..	..	..	..	..	..	1	1
Enteric or Typhoid Fever ..	...	1	1	2	1	..	..	..	1	..	..	..	..	3	6
Continued Fever ..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	1
Malarial Fever ..	..	..	..	..	..	1	1	..	..	..	..	..	..	2	2
Influenza ..	..	..	..	..	3	1	4	3	5	1	..	..	..	8	17
Group 2.—Diarrhæal Diseases.															
Diarrhœa ..	56	16	72	..	..	1	..	1	3	2	..	..	..	39	79
Dysentery ..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1
Group 3.—Septic Diseases.															
Erysipelas ..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	1
Pyæmia ..	1	..	1	..	..	..	..	..	..	..	..	..	..	1	1
Septicæmia ..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	1
Puerperal Fever ..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	1
Group 4.—Venereal Diseases.															
Syphilis ..	...	..	..	..	2	..	..	..	..	..	..	..	..	1	3
Inherited Syphilis ..	1	..	1	..	..	..	..	..	..	..	..	..	..	1	1

TABLE XI.—CONTINUED.

DISEASES CLASSIFIED.	AGES.											SEX.		Totals.			
	AGES.											Males.	Females.				
	0 to 1	1 to 5	Total under 5 years.	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards.		Total over 5 years.		
Class IV.—Constitutional Diseases— <i>con.</i>																	
Anæmia ..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	1	1
Hip Joint Disease	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	1
Rickets ..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Class V.—Developmental Diseases.																	
Old Age ..	..	..	..	..	..	..	..	..	1	25	61	18	3	108	41	67	108
Premature Birth..	..	..	73	..	..	..	..	..	..	..	..	..	..	..	41	32	73
Spina Bifida ..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Patent Foramen Ovale ..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Other Malformations ..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	2	..	2
Class VI.—Local Diseases.																	
Group I.—Diseases of the Nervous System.																	
Apoplexy ..	..	..	..	..	..	2	7	11	19	16	14	2	..	71	31	40	71
Paralysis ..	..	..	..	..	..	..	3	2	7	4	9	..	..	25	19	6	25
Softening of Brain	..	..	..	..	..	1	1	5	4	7	6	1	..	25	14	11	25
Convulsions ..	50	8	58	..	..	..	..	..	..	..	..	..	..	..	28	30	58
Epilepsy ..	..	..	..	..	1	1	1	2	2	1	..	..	..	8	6	2	8
Spasmodic Group	..	2	7	..	..	..	..	..	..	..	..	..	..	..	4	3	7
Meningitis ..	8	4	12	4	2	..	..	2	..	..	1	..	..	9	11	10	21

TABLE XI.—CONTINUED.

DISEASES CLASSIFIED.	AGES.											SEX.		Totals.		
												Males.	Females.			
	0 to 1	1 to 5	Total under 5 years.	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards.		Total over 5 years.	
Class VI.—Group 1.—continued.																
Myelitis .. .. .	..	..	..	1	..	..	..	1	..	..	..	..	..	2	1	2
Hemiplegia .. ..	..	..	..	..	..	..	..	..	1	2	3	1	..	7	6	7
Hydrocephalus ..	3	..	3	..	..	..	..	..	..	..	..	..	..	..	1	3
Chorea .. .. .	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Sclerosis of Spinal Cord ..	..	..	..	..	..	..	1	1	1	..	..	..	..	2	2	2
Peripheral Neuritis ..	..	..	..	..	..	..	1	1	..	..	..	..	..	2	1	2
Acute Mania .. ..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	1	1
Group 2.—Diseases of Special Sense.																
(a) Diseases of the Eye.																
Ophthalmia	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1
(b) Diseases of the Ear.																
Otorrhœa	2	..	2	1	..	..	..	..	..	..	..	..	..	1	2	3
Group 3.—Diseases of the Circulatory System.																
Heart Disease	1	..	1	1	5	7	12	17	21	28	27	2	..	120	64	121
Syncope	2	..	2	..	1	1	..	..	..	..	3	1	..	5	5	7
Embolism .. .. .	..	..	..	..	..	..	1	..	..	..	..	..	..	1	1	1
Aneurysm .. .. .	..	..	..	..	..	..	2	1	1	..	1	..	..	4	3	4
Thrombosis .. ..	..	..	..	..	..	..	..	..	1	..	1	..	..	2	2	2
Endocarditis .. ..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	1
Pericarditis .. ..	..	..	..	1	..	1	1	..	..	..	..	..	..	3	2	3

TABLE XI.—CONTINUED.

DISEASES CLASSIFIED.	AGES.											SEX.		Totals.			
	Total under 5 years.											Total over 5 years.	Males.		Females.		
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95					95 and upwards.	
Class VI.—Group 3.—continued.																	
Cyanosis	1	3	4
Angina Pectoris	1	..	..	1	1	..	1
Atheroma of Arteries	1	..	..	1	1	..	1
Group 4.—Diseases of the Respiratory System.																	
Bronchitis	3	1	7	29	31	13	4	..	..	91	102	83	185
Pneumonia	5	3	2	3	1	7	5	..	..	..	29	41	37	78
Pleurisy	1	1	..	1	1	..	..	..	3	2	1	3
Congestion of Lungs	3	2	1	7
Croup	2	..	..	..	..	..	..	3	3	..	3
Empysema	1	..	..	..	..	..	3	2	1	3
Hæmoptysis	1	1	1	..	..	..	..	..	..	3	2	1	3
Laryngitis	..	1	..	1	..	..	..	..	..	..	..	..	..	1	..	2	2
Gangrene of Lungs	1	..	..	..	..	..	..	..	1	1	..	1
Asphyxia	1	..	1
Bronchectasis	1	1	..	..	..	2	1	1	2
Group 5.—Diseases of the Digestive System.																	
Debility, Atrophy, and Marasmus	..	5	53	..	..	..	..	..	..	..	..	..	..	..	31	22	53
Noma	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Stomatitis	..	1	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Tonsillitis	..	1	1	1	..	..	..	..	..	..	..	..	..	1	1	1	2
Gastritis	2	..	..	..	2	1	1	..	..	..	..	5	2	5	7
Gastro-Enteritis	..	2	6	1	..	..	1	..	..	..	..	..	..	4	4	6	10

TABLE XI.—CONTINUED.

DISEASES CLASSIFIED.	AGES.											SEX.		Totals.			
	0 to 1	1 to 5	Total under 5 years.	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards.		Total over 5 years.	Males.	Females.
Class VI.— continued. Group 7.—Diseases of the Urinary System. Bright's Disease Acute Nephritis Uræmia Cystitis Ulcer of Bladder Renal Calculus Stricture	1	..	1	..	..	7	6	9	7	3	1	..	33	23	10	
	..	1	2	1	..	..	..	..	1	1	..	..	..	4	5	1
	1	1	..	..	..	2	2	..	
	1	..	..	2	1	..	..	4	3	1	
	1	..	..	..	..	..	..	..	1	..	..	1	1	..	
	1	1	..	
	1	..	..	..	..	..	..	1	1	..	
	1	..	1	..	..	..	..	..	..	2	2	..	
	
	
Group 8.—Diseases of the Reproductive System. (a) Male Organs— Prostatitis Prostatic Abscess (b) Female Organs— Parturition (Child Birth) Pelvic Abscess Ovarian Cyst Extra Uterine Gestation	1	2	1	..	..	4	4	..	
	1	1	..	..	..	1	1	..	
	
	4	1	..	..	..	..	..	..	..	5	..	5	
	1	..	..	..	..	..	1	..	1	
	1	..	..	..	1	..	1	
	1	..	..	..	..	..	..	..	1	..	1	
	
	
	
Group 9.—Diseases of the Osseous System. Spinal Caries Caries of Hip Necrosis of Bone	1	1	..	..	..	..	..	..	..	2	2	..	
	1	..	..	..	..	..	..	..	..	..	1	..	1	
	
	1	..	1	..	..	..	..	..	..	1	..	..	..	2	2	1

TABLE XII.

SHOWING MARRIAGE RATE, BIRTH RATE, DEATH RATE, ZYMOTIC
DEATH RATE, AND INFANTILE MORTALITY FOR THE BOROUGH,
AND ITS VARIOUS DISTRICTS, FOR THE YEAR 1897.

District.	Marriage Rate.	Birth Rate.	Death Rate.	Zymotic Death Rate.	Infantile Mor- tality (Deaths under One Year per 1,000 Births registered.)
Whole Borough	16·81	29·11	16·59	2·15	155·6
Town Proper	20·11	29·54	18·12	2·41	164·9
Portswood and Bitterne Park	10·41	27·86	12·37	1·65	148·1
Shirley, Freemantle and Millbrook	11·65	28·75	15·12	1·74	132·3

TABLE XIII.

SHOWING WEEKLY NOTIFICATIONS OF INFECTIOUS DISEASE FOR THE YEAR ENDING 31st. DECEMBER, 1897.

Week Ending.						Small Pox.	Diphtheria.	Membranous Group.	Erysipelas.	Scarlet Fever.	Typhoid and Continued Fever.	Puerperal Fever.	Total.
1897.													
January	9th	...	...	...	...	...	2	...	1	9	2	...	14
"	16th	...	...	...	...	...	3	...	2	14	...	...	19
"	23rd	...	...	...	...	...	1	...	3	9	...	...	13
"	30th	...	...	...	...	2	2	...	2	15	3	1	25
February	6th	...	...	...	...	...	1	...	...	15	...	...	16
"	13th	...	...	...	...	...	2	...	1	10	...	...	13
"	20th	...	...	...	...	...	2	...	1	8	1	1	13
"	27th	...	...	...	...	...	4	...	2	5	1	...	12
March	6th	...	...	...	...	...	2	...	...	3	1	...	6
"	13th	...	...	...	...	...	1	...	...	8	...	1	10
"	20th	...	...	...	...	...	4	...	1	...	1	...	6
"	27th	...	...	...	...	...	1	...	1	4	...	...	6
April	3rd	...	...	...	...	...	...	...	1	8	...	...	9
"	10th	...	...	...	...	...	...	...	...	4	3	...	7
"	17th	...	...	...	...	...	1	...	1	6	...	...	8
"	24th	...	...	...	...	...	3	...	2	4	2	...	11
May	1st	...	...	...	...	...	2	...	1	3	2	...	8
"	8th	...	...	...	...	...	2	...	...	1	1	...	4
"	15th	...	...	...	...	...	2	...	1	4	...	...	7
"	22nd	...	...	...	...	...	...	...	1	3	1	...	5
"	29th	...	...	...	...	...	...	...	3	1	1	...	5
June	5th	...	...	...	...	...	...	1	1	1	1	...	4
"	12th	...	...	...	...	...	2	1	...	6	...	1	10
"	19th	...	...	...	...	...	...	...	1	3	1	...	5
"	26th	...	...	...	...	...	...	...	...	1	...	1	2
July	3rd	...	...	...	...	...	1	...	...	6	...	...	7
"	10th	...	...	...	...	...	...	...	...	3	1	...	4
"	17th	...	...	...	...	...	...	...	...	2	1	...	3
"	24th	...	...	...	...	...	2	...	...	1	1	...	4
"	31st	...	...	...	...	...	3	...	3	2	1	1	10
August	7th	...	...	...	...	...	1	...	...	5	...	...	6
"	14th	...	...	...	...	...	...	...	...	5	2	...	7
"	21st	...	...	...	...	...	1	...	2	3	2	...	8
"	28th	...	...	...	...	...	...	...	...	2	4	...	6
September	4th	...	...	...	...	...	...	...	...	5	2	...	7
"	11th	...	...	...	...	...	...	...	3	1	3	...	7
"	18th	...	...	...	...	...	...	...	...	5	3	...	8
"	25th	...	...	...	...	...	1	...	...	2	1	...	4
October	2nd	...	...	...	...	...	...	...	1	3	5	...	9
"	9th	...	...	...	...	...	1	...	1	3	4	...	9
"	16th	...	...	...	...	...	...	...	1	8	3	...	12
"	23rd	...	...	...	...	...	...	...	3	2	...	...	5
"	30th	...	...	...	...	1	...	...	3	5	3	...	12
November	6th	...	...	...	...	...	1	...	3	7	...	...	11
"	13th	...	...	...	...	3	...	...	1	7	4	...	15
"	20th	...	...	...	...	...	1	...	1	2	...	1	5
"	27th	...	...	...	...	...	...	...	1	1	3	1	6
December	4th	...	...	...	...	1	...	...	1	3	1	...	6
"	11th	...	...	...	...	...	2	...	...	2	1	...	5
"	18th	...	...	...	...	...	...	...	...	4	1	...	5
"	25th	...	...	...	...	...	1	...	1	...	...	...	2
"	31st	...	...	...	...	...	1	...	2	1	1	...	5
Totals ...						7	53	2	53	235	68	8	426

TABLE XIV.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1897,
CLASSIFIED ACCORDING TO DISEASES AND AGES.

DISEASES.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and up- wards.	Total.
Small Pox .. ..	..	..	..	2	5	..	..	..	..	..	7
Cholera .. ..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria .. ..	..	9	22	6	7	4	2	2	1	..	53
Membranous Croup ..	..	2	..	..	..	..	..	..	..	..	2
Erysipelas	2	2	4	2	10	8	9	5	8	3	53
Scarlatina or Scarlet Fever }	2	62	102	46	17	4	1	1	..	..	235
Typhus Fever .. ..	..	..	..	..	..	..	..	..	..	..	..
Typhoid, Enteric, Relapsing, or Con- tinued Fevers .. }	..	7	15	16	13	11	4	1	..	1	68
Puerperal Fever .. ..	..	..	..	..	1	7	..	..	..	..	8
Totals	4	82	143	72	53	34	16	9	9	4	426

TABLE XV.

SHOWING NUMBER AND DESCRIPTION OF CASES OF INFECTIOUS
DISEASE NOTIFIED TO THE MEDICAL OFFICER OF HEALTH IN EACH
OF THE FOUR QUARTERS OF 1897.

DISEASES.	Quarter Ending.				Total for Year.	Mortality for Year.
	March 31.	June 30.	Sept. 30.	Dec. 31.		
Small Pox	2	..	..	5	*7	..
Diphtheria	25	13	8	7	53	9
Membranous Croup ..	..	2	..	..	2	1
Erysipelas	15	11	9	18	53	1
Scarlet Fever	108	43	39	45	235	11
Enteric or Typhoid Fever	9	12	26	21	†68	7
Puerperal Fever	3	2	1	2	8	1
Totals	162	83	83	98	426	30

* Includes two cases of Small Pox arrived per ship.

† Includes 12 cases of Typhoid Fever arrived per ship and removed to Infirmary and West Quay Hospital, also one case removed to Infirmary from an outlying District.

TABLE XVI.

SHOWING ALL DISEASES NOTIFIED DURING THE PAST SEVEN YEARS,
AND THE NUMBER OF THEM ADMITTED TO HOSPITAL.

DISEASES.	1891.		1892.		1893.		1894.		1895.		1896.		1897.	
	Notifications.	Admissions.	Notifications.	Admissions.	Notifications.	Admissions.	Notifications.	Admissions.	Notifications.	Admissions.	Notifications.	Admissions.	Notifications.	Admissions.
Small Pox	15	15	37	37	125	152*	17	†18	6	6	9	11	7	7
Cholera .. ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Diphtheria	20	..	10	..	51	1	39	..	39	..	50	..	53	..
Membranous Croup ..	3	..	3	..	2	..	1	..	3	..	6	..	2	..
Erysipelas	33	..	40	..	109	..	63	1	53	..	82	..	53	..
Scarlet Fever	99	10	64	18	97	..	79	5	352	198	906	268	235	141
Typhoid Fever	62	..	82	17	107	..	78	2	59	..	79	..	68	1
Puerperal Fever	1	..	2	..	3	..	4	..	4	..	8	..	8	..
Measles .. ..	..	..	..	..	..	2	..	3	..	..	..	2	..	2
Totals	233	25	238	72	494	156	281	29	516	204	1140	281	426	151

* Includes 27 cases admitted from outlying districts.

† „ 1 case „ „ „ „

TABLE XVII.

SHOWING NUMBER OF CASES ADMITTED TO FEVER HOSPITAL, 1897.

DISEASES.	Under 5 Years.	Over 5 Years.	Recovered.	Deaths.	Remaining.	Payments received.
Small Pox .. ..	..	7	7	..	..	£28 2s. 6d.
Scarlet Fever	26	115	123	5	13	
Measles	1	1	2	..	..
Typhoid Fever .. ..	..	1	1	..	..
Totals	27	124	133	5	13	£28 2s. 6d.

TABLE XVIII.

VACCINATION RETURNS FOR TOWN PROPER.

Years.	Births.	Successfully Vaccinated.	Died Unvaccinated	Insusceptible to Vaccination.	Postponed and whereabouts unknown, or removed to other districts.	Total.
1888	1710	1391	144	1	174	1710
1889	1660	1272	138	1	249	1660
1890	1585	1263	143	3	176	1585
1891	1714	1365	157	4	188	1714
1892	1646	1312	178	8	147	*1646
1893	1701	1391	178	17	115	1701
1894	1796	1466	177	30	123	1796
1895	1874	1539	203	16	116	1874
1896	1912	1558	230	18	106	1912

* One Child had Small Pox.

TABLE XIX.

ABSTRACT FROM THE METEOROLOGICAL REGISTER KEPT AT THE ORDNANCE SURVEY OFFICE, SOUTHAMPTON,
DURING THE YEAR, 1897.

Month.	BAROMETER CORRECTED AND REDUCED TO 32° FAHRT. AT MEAN SEA LEVEL.					TEMPERATURE.					RAINFALL.				RECORDED SUNSHINE.		
	Mean at		Maximum Reading.	Date.	Minimum Reading.	Date.	Mean		Approx. Mean.	Highest.	Date.	Lowest. Minimum.	Date.	No. of days on which 0.1 or more fell.	Total No. of Hours.	Maximum No. of Hours.	Date.
	9 a.m.	9 p.m.					9 a.m.	9 p.m.									
January ...	Inches. 29.903	Inches. 29.895	Inches. 30.566		Inches. 29.201		Deg. 36.2	Deg. 36.0	Deg. 37.2	Deg. 50.5	1 & 7	Deg. 21.9	18	17	40.2	5.6	26 & 27
February ...	30.129	30.135	30.663	2	29.182	22 & 23	44.1	44.3	45.4	56.6	22 & 26	30.5	17	15	36.8	7.5	18
March	29.726	29.710	30.172	21	28.904	23	46.0	43.9	46.6	62.6	23	28.5	8	20	120.8	10.1	30
April	29.868	29.884	30.318	15	28.979	15	48.5	45.8	48.0	69.0	27	29.6	5	15	155.4	12.8	23
May	29.998	29.991	30.426	15	29.355	15	55.4	51.5	53.5	78.6	18	31.4	13	12	250.0	14.8	22
June	30.033	30.049	30.348	11	29.547	11	63.2	59.9	62.3	84.5	24	45.2	19	14	198.7	15.0	12 & 13
July	30.037	30.035	30.366	11	29.610	20	68.7	62.4	65.4	88.3	16	45.0	8	4	266.7	14.9	15
August	29.860	29.856	30.209	3	29.548	8	65.4	60.8	63.5	84.3	2	50.1	26	21	227.7	13.7	3
September ..	30.043	30.025	30.532	13	29.428	1	57.6	54.5	57.1	70.1	13	38.7	19	14	155.4	11.3	10
October ...	30.185	30.183	30.582	21	29.449	15	53.2	51.3	53.8	68.4	19	33.2	7	7	141.3	9.3	3
November	30.215	30.190	30.722	21	29.417	30	46.5	46.2	47.2	62.1	1	30.4	26	14	52.0	7.5	2
December	29.968	29.964	30.642	22	29.075	10	41.4	42.3	42.9	56.7	16	26.4	4	17	75.0	7.0	2
For the Year ...	29.997	29.993	30.722	21 Nov.	28.904	Mar. 2	52.2	49.9	51.9	88.3	16 July.	21.9	Jan. 18	170	1720.0	15.0	12 & 13 June.

This Table has been supplied by the courtesy of Colonel J. FARQUHARSON, R.E., C.B.

APPENDIX B.—CONTENTS.

The Borough Analyst's Report for the year ending December 31st, 1897.

ANALYST'S DEPARTMENT.

ANNUAL REPORT for the Year ending December
31st 1897.

*To the Mayor, Aldermen and Councillors of the Borough of
Southampton.*

GENTLEMEN,

I have the honour of submitting for your information an account of the work done in this department during the past year.

SECTION I.

WORK DONE UNDER THE SALE OF FOOD AND DRUGS ACT.

The total number of samples analysed was two hundred and eighteen.

The number received during the year being two hundred and fifteen, an increase of thirty-five over 1896.

One hundred and sixty-seven samples were submitted by Inspectors and forty-three by private persons, an increase of five and thirty respectively.

The numbers submitted during each quarter were:—

During Quarter ending		March 31st.	63 samples.
„	„	June 30th.	57 „
„	„	Sept. 30th.	32 „
„	„	Dec. 31st.	63 „
Total ...			215

Table **A** appended hereto gives in detail the number, and nature of the samples analysed and the percentage of adulterated samples in each class.

Table **B** shows the result of the analyses of the adulterated samples, how the vendors were dealt with and the fines obtained.

These tables show that butter, milk, and coffee are the articles most frequently submitted, and in all three there were cases of adulteration.

The results of the analyses of these three classes of articles for 1896 and 1897 were:—

Samples adulterated.				1896.	1897.
Butter	...	...	...	4	2
Coffee	...	...	...	0	2
Milk	...	...	...	5	19

There is a decrease in the number of adulterated samples of butter and an increase in the number of samples analysed.

In coffee and milk there is an increase in the number and per cent. of samples adulterated. In the case of butter

and coffee the adulterated samples were three privately within, and one from outside the Borough.

In the case of milk the percentage of adulterated samples has increased from 5·43 per cent. in 1896 to 18·6 per cent. in 1897.

In the samples submitted by Inspectors the percentage of adulteration is 7·01; and in the samples submitted privately 23·8. That is to say the proportion of adulterated articles in the samples submitted privately is three times the proportion in the samples submitted by the Inspectors.

The average composition of the milk submitted is below that of 1896; the decrease being small in the samples received from Inspectors, but marked in those received privately.

Average composition of milk received in the years 1896 and 1897.

	Inspectors.		Privately.	
	1896.	1897.	1896.	1897.
Total solids	12·86	12·71	—	12·19
Fat	4·11	3·92	—	3·54

The effect of the poor quality of the genuine samples submitted privately, is seen in the reduction of the general average.

				1896.	1897.
Fat ... ..	...	...	...	4·11	3·83
Total solids ...	...	...	...	12·86	12·59

A table of curves, showing in detail the composition of the milk submitted, can be seen at the Analyst's Office.

SECTION II.

GENERAL ANALYSES.

A.—*For the Corporation.*

B.—*Private Analyses.*

A.

The samples submitted and the departments for which they were analysed were as follows, viz.:—

BOROUGH ENGINEER'S DEPARTMENT —

Mortar	...	21	samples.	
Tar Paving	2	„		
Slate	...	2	„	Total—25 samples.

MEDICAL OFFICER'S DEPARTMENT —

Water	80 samples.
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WATERWORKS ENGINEER'S DEPARTMENT —

Water	8	samples.	
Soap solution	...	3	preparations.		
Water for hardness,	831	samples.	Total	842	samples.
Deputation Exeter Sewage and Effluent.	7	„			
Electric Light Works	...	...	...	1	„
Total					955

BOROUGH ENGINEER'S DEPARTMENT.

The results of the analyses of the samples of mortar have been dealt with in detail in the Quarterly Reports. Legal proceedings have been taken in several cases and convictions obtained, and as a result, a better quality of mortar is now being used.

It is, however, desirable that a clause definitely fixing the minimum proportions of lime, sand, or other materials used in place of sand, should be inserted in the Building Bye-Laws. There is still room for improvement both in the quality and proportions of the material used.

The tar paving has been fully reported upon, and the slates were subjected to a severe series of tests to prove their permanence of colour, which they withstood admirably.

In addition to the analyses above mentioned, experiments have been made as to the possibility of using a refuse material in the production of an artificial paving.

Portions of the preparation have been made in sufficient quantity and laid between the posts at the Kingsland end of the footway leading from near the Chamberlayne Monument across the Hoglands. It is too early, as yet, to form any opinion as to the quality of the product.

WATERWORKS ENGINEER'S DEPARTMENT.

The analyses of the samples of water for this department show the remarkable purity of the Otterbourne supply, and the satisfactory manner in which the softening plant is being worked.

They also show the difference between the composition of the water from the River Itchen at the point nearest the works, and that from the wells, proving that no water from the river finds its way to the wells through large or small fissures.

The purity of the water from the River Itchen at the point named is greatly superior to many public supplies.

MEDICAL OFFICER'S DEPARTMENT.

The whole of the samples from this department consisted of water, and were from four distinct sources, viz. :—

- 1.—Samples from wells 24 samples
- 2.—Samples from vessels arriving
at this port with sickness on
board 3 samples
- 3.—Samples from the basements or
beneath the floors of inhabited
houses 31 „
- 4.—The weekly samples of the
Borough supply... 22 „

The samples of the Borough water supply show (a) that the character of the two supplies, namely, that from Otterbourne and the one from Timsbury are similar, and remarkably free from organic impurities, which purity is preserved by the use of covered reservoirs, both by the Corporation and the Waterworks Company.

In the early part of the year there was a great difference in the hardness of the two supplies, but the

xxx.

South Hants Company have, since the publication of the monthly hardness averages, approximated to the supply from Otterbourne in this respect.

The average hardness for the twelve months has been :—

Corporation Supply from				
Otterbourne	...	...	6.1°	Clark's Scale.
South Hants Supply from				
Timsbury	...	...	9.54°	„ „

In the matter of water from wells, the proceedings taken in consequence of these analyses will be given by the Medical Officer.

B.

The samples (other than Food and Drugs) submitted privately have covered a wide range, and are given in the following table :—

Table of Samples submitted privately—

				No. of Samples.
Bees Wax	...	...	...	1
Boot Polishes	...	...	...	2
Cylinder Oil	...	...	...	1
Iron Ore	...	...	...	1
Petroleum Oil	...	...	...	2
Pharmaceutical Preparation	...	...	...	1
Urine	...	...	...	1
Water	...	...	...	44
Total	...	...	...	<hr/>53 <hr/>

The samples being submitted for private information, their nature and number only are recorded.

Total work done in Laboratory during 1897 :—

Food and Drugs Act, Corporation	...	172
„ „ „ Privately	...	46
Other Articles, Corporation	...	955
„ „ Privately	...	53
Experiments on utilization of refuse	...	1
<hr/>		
Total	...	1,227
<hr/>		

The fees received during the year for private analyses were :—

	£	s.	d.
Actual receipts by Borough Treasurer	100	2	2½
Fees outstanding Dec. 31st, 1896	19	8	6
„ „ „ 1897	15	7	0

I am, Gentleman,

Your obedient Servant,

J. BRIERLEY.

TABLE A.

Name of Article Analysed.	Number of Samples Analysed.	Number of Samples Adulterated.	Per Cent. of Adulterated Samples.
Bread	2	0	0
Butter	72	2	2·77
Coffee	30	2	6·66
Flour	2	0	0
Lard	3	0	0
Milk	103	19	18·44
Oil, Castor	1	0	0
„ Cod Liver	1	0	0
„ Olive	2	0	0
„ Linseed	1	0	0
Whiskey	1	0	0
Totals	218	23	10·55

TABLE B.

Name of Article.	No. of Sample.	Nature of Adulteration.	Proceedings taken.	RESULT.	
				Fine.	Costs.
Butter	A.	Not Butter	Private	—	—
„	5 P.	„	„	—	—
Coffee	1a.	8 % Chicory	„	—	—
„	2b.	19 % „	„	—	—
Milk	16	25 % added Water ..	Summoned	40/-	Costs
„	40	8 % Cream removed	No action	—	—
„	41	37 % „ „	Summoned	2/6	8/6
„	42	39 % „ „	„	2/6	8/6
„	66	3 % Water added ; 10 % Cream removed	No action	—	—
„	77	31 % „ „	Summoned	10/-	Costs
„	85	20 % added Water ..	„	20/-	7/6
„	89	2 % „ „	No action	—	—
„	108	3 % „ „	„	—	—
„	116	13 % „ „	„	—	—
„	126	2 % „ „	„	—	—
„	147	16 % Cream removed	Summoned	5/-	7/6
„	161	9 % „ „	No action	—	—
„	A.	22 % „ „	} Private—all one source.	—	—
„	B.	10 % „ „		—	—
„	C.	10 % „ „		—	—
„	D.	10 % „ „		—	—
„	E.	9 % „ „		—	—
„	F.	10 % „ „		—	—